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ABSTRACT

This report is a preliminary investigation of differences in the pattern and level of interests between ethnic groups and control groups of Australian subjects. A theoretical framework for the development of cultural differences in interests is outlined. Self-estimates of interests are also examined to determine the extent to which individuals themselves reflect cultural differences. Finally, a variety of career resources materials and normative data are provided for use in schools. The results of this study supported the framework for vocational development outlined by Gottfredson. This approach to career choice emphasized the influence of the individual's sex and socioeconomic status as determinants of occupational interests, modified further by level of ability. Also, the analysis of interests by Prediger in terms of the work-task dimensions of data-ideas and people-things was consistent with the vocational interests of this sample. (PN)

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**CAREER
INTERESTS
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ETHNIC
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CAREER INTERESTS AND ETHNIC BIAS

Report for the Commonwealth Multicultural Education
Program

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PREFACE

Assessment of interests forms the foundation of all career education programmes. For this reason, vocational interest surveys or questionnaires are widely used in Australian schools by teachers, counsellors and careers advisers. They are used (a) to provide an initial or partial assessment of vocational preferences, (b) as a basis for clarification of life goals, and (c) as a foundation for career education programmes. To date, there has been no Australian investigation of cultural biases in career education materials, such as, interest inventories.

Already, we have generally recognised that tests provide a limited sample of items, and that with inadvertent use they can discriminate against a variety of individuals (e.g men vs women; minority groups etc) on the basis of past socialisation. It is clearly the case that restriction of scores on interest inventories results in fewer vocational options within the scope of current career guidance services.

This report is a preliminary investigation of differences in the pattern and level of interests between ethnic groups and control groups of Australian subjects. A theoretical framework for the development of cultural differences in interests is outlined. Self-estimates of interests are also examined to determine the extent to which individual themselves reflect cultural differences. Finally, a variety of career resources materials and normative data are provided for use in schools.

James A. Athanasou
Sydney
May, 1983.

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CAREER INTERESTS AND ETHNIC BACKGROUNDS

Central to the analysis of vocational choice and career development is the concept of interest. Interests are the activities and objects through which individuals prefer what is important to them (Super & Bohn, 1971, p.83). They are relatively fixed behaviour patterns which give us some basis for understanding the way an individual responds.

In reality, interests are likes and dislikes, and vocational interests are likes and dislikes for those things related to work. Over the years it has been found possible to categorise people on the basis of these likes and dislikes. Even though their preference for specific activities or occupations may change over time, the patterns of interest across the categories are relatively stable from adolescence (Super & Crites, 1962).

Interest Measurement

Interests are generally difficult to measure because direct or absolute measurement of such complex behaviour patterns is awkward. They cannot be assessed as directly as abilities or knowledge. The different approaches to the assessment of vocational interests are now largely standardised, and seek to tap interests at different levels of awareness. They include (a) inventories, i.e. questionnaires, (b) expressed, i.e. stated occupational choices, (c) manifest, i.e. demonstrated involvement, and (d) tested interests, i.e. specific information about a subject. The focus of this report is the use of inventoried interests, and the use of self-evaluations of interests with younger people in career education and vocational guidance.

Inventoried interests consider an individual's expression of likes and dislikes. The various positive or negative statements made by an individual on a questionnaire are summed and the results compared to statements made by others. The results are treated statistically to provide percentage comparisons with various demographic (age, sex, race) and occupational groups.

The purpose of interest measurement is that it provides a way of predicting satisfaction in an occupation. Together with an indication of abilities, interests also outline reasonable levels of occupational achievement. A third reason for trying to assess interests is that a wider range of career options can be provided to job-seekers. That is, a list of occupations consistent with an individual's highest interests can be provided - so that relevant occupations for further study or as checks on a person's choice of occupation.

One way in which this has been achieved is to relate occupations to their involvement with basic work-task. For example, the Dictionary of Occupational Titles (U.S. Department of Labor, 1977) has classified all 21,741 occupations in terms of their involvement with Data, People and Things. Recently, Prediger (1976) suggested a theoretical basis for locating occupations on two work-task dimensions, and provided examples of its use in career exploration.

Work-Task Dimensions

The four fundamental types of human work and experience (Prediger, 1976), are outlined below in terms of the nature, contents and processes involved - as well, occupational examples are provided (Table 1).

TABLE 1 : SUMMARY OF WORK-TASK DIMENSIONS

Domain	Data	Ideas	Things	People
<u>Nature</u>	Impersonal	Intrapersonal	Non-personal	Interpersonal
<u>Contents</u>	Facts, records files, numbers, goods & service	Abstractions, theories know- ledge, insights expression-words /equations/music	Machines, tools, materials	Other individuals
<u>Process</u>	Comparing, copy- ing calculating, organizing	Synthesizing Co-ordinating Analyzing, dis- covering	Handling, operating driving, repairing producing	Mentoring, negot- iating, instructing, caring, helping serving
<u>Examples</u>	Accountancy Banking, Sales Computerwork Secretarial Work Management Retailing	Science Medicine Music, Art	Farming Engineering Building Driving Electronics	Nursing Teaching Social Work

The importance for vocational guidance of this model centres around its conceptualisation of work-tasks. Prediger (1981) has noted that:

"People and things are the world's tangibles - one can interact with them directly. Tasks related to people and things constitute life's first challenge. Data and ideas, on the other hand, are intangibles or abstractions that take on meaning in the content of people and things. Data and ideas work tasks can combine with people and things work tasks in a myriad of ways. Thus, it would appear that the four work tasks may well constitute basic components of the work world - indeed, of life in general. With what else can one interact?" (pp. 293-294)

Furthermore, several types of research have suggested that the two dimensions are descriptive of vocational interests. A things-people dimension has been a consistent feature of the analysis of interest scales (e.g. Cottle 1950; Lunneborg & Lunneborg 1975; Strong 1943).

The data vs ideas dimensions is reflected in Roe's "theoretical vs economic orientation" (Roe & Elos, 1969, p.87) and Lunneborg and Lunneborg's (1975) Science vs Business factor, see p.8. Further support is provided by analysis of vocational interest scales such as the Holland Vocational Preference Inventory (e.g. Athanasou et al, 1981), where Data-Ideas and People-Things factors were evident.

Development of Interests

Of course, an interest of any kind is an inferred construct. It classifies certain events or behaviours, even though it cannot be observed directly. It is inferred from actions such as choice, approach or merely saying "I like". Such preferences are assumed to be learned - fashion over time in some way by familial or social influences. From the behavioral viewpoint (Staats, et al 1973), vocational interests and career development are seen as the consequences of learning experiences and environmental factors. Thorndike (1935) proposed that interests were developed and modified by (a) contiguity, (b) suggestion, (c) imitation, and (d) conditioning.

Holland (1973) has proposed that "people search for environments and occupations that will permit them to exercise their skills and abilities, to express their attitudes and values, to take on agreeable problems and roles, and to avoid disagreeable ones" (1973, p.4). The concept of life history or life style was introduced by Holland, and was conceived as "a particular pattern of living". It is

identified by the individual's interactions with environments, such as parents, siblings, peers, schools, churches. Super and Crites have further hypothesised that "certain" social environments encourage the development and expression of certain kinds of interests while inhibiting the development or manifestation of others" (1962, p.389).

Some indirect evidence that cultural factors exert a direct influence on vocational interests would be consistent with these hypotheses.

A Work-Task Model of Vocational Interests

Working within a model of vocational interests based on actual work-tasks, it is possible to see how different cultural environments or socialization process (e.g. male vs female) can act to influence the pattern and types of interests (see Figure 1). This model also incorporates the development views of Gottfredson (1981) on occupational aspirations.

INSERT FIGURE 1 AROUND HERE

The individual's environment consists of Data-Ideas-People-Things in various combinations, and is transmitted through social structures and significant others over time. It is reflected in the life of its members, such as relatives, teachers or friends, at work, at home, at school, at church etc. The social structure is the medium which provides the conditioning, the contiguity, the model and the suggestion proposed by Thorndike (1935), but in a manner consistent with the dominating aspects of these environments. Thus, the cultural environment provides and limits the activities - the data, ideas, people and things - which foster the interests and competencies of individuals from different ethnic backgrounds.

According to the developmental viewpoint, people seek jobs compatible with images of themselves. The most important determinants of self-image were considered by Gottfredson (1981) to be the socio-cultural factors of social class, intelligence and sex-role. These more than any other factors were determinants of the types of compromises people made when choosing an occupation. These attributes defined the boundaries of career exploration, but were also modified by a mixture of educational/training aspirations, or

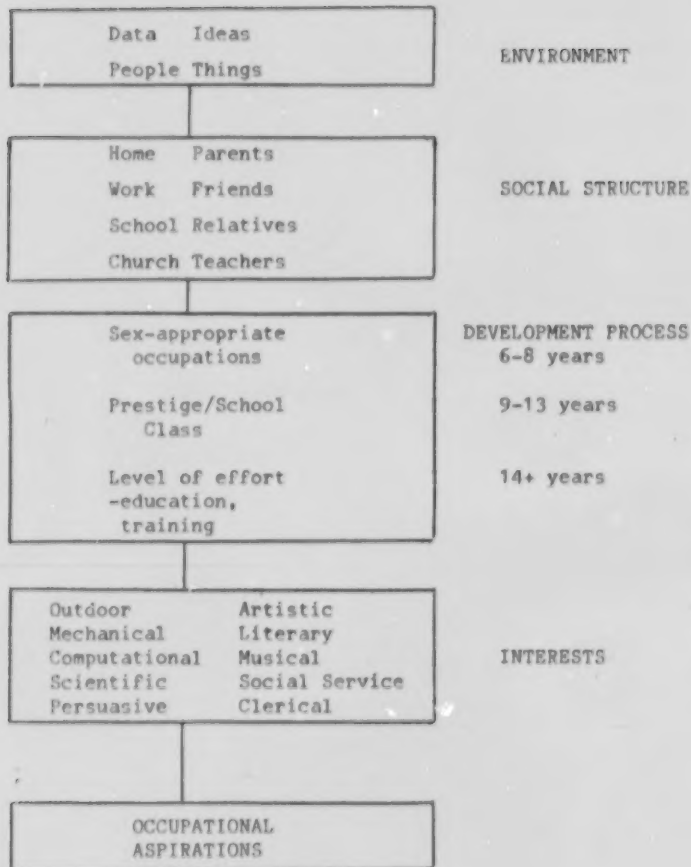


FIGURE 1 A WORK-TASK MODEL OF VOCATIONAL INTERESTS

effort. Goffredson (1981) proposed that most people within a culture share a cognitive map of occupations. The major dimensions of this map are the prestige level of jobs and the sex-type of a job. (see Figure 2)

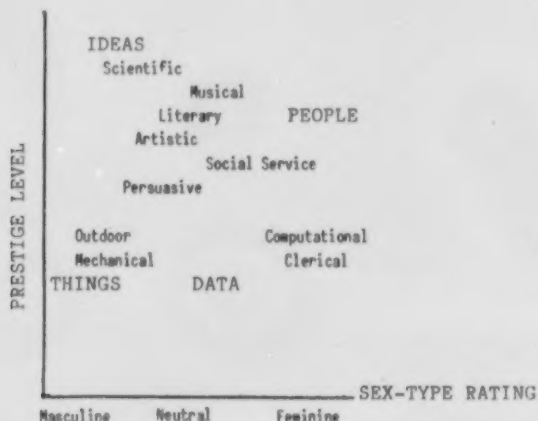


FIGURE 2: A COGNITIVE MAP OF OCCUPATIONS

Cultural influences are hypothesised to act at three different points. Firstly the nature of the work-tasks - data, ideas, people, things - will vary across cultures. Secondly there will be differences in the influence of social structures (e.g family, schools) across ethnic groups. Finally the developmental process will be influenced by cultural variables (e.g variations in the nature and number of sex-appropriate occupations for men and women).

For each individual there will be a zone of culturally acceptable alternatives. Within this region, the individual will explore his/her options for implementing interests. A hypothetical map of the aspirations of an adolescent male (adapted from Gottfredson 1981, p553) is shown in Figure 3.

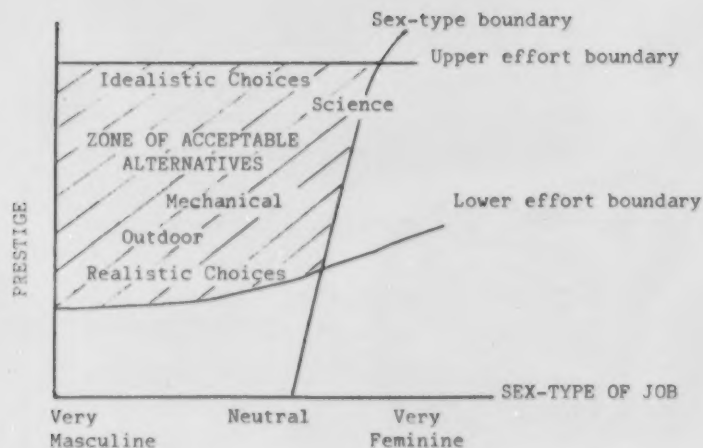


FIGURE 3 HYPOTHETICAL ZONE OF ACCEPTABLE ALTERNATIVES

Cultural Influences on Interests

Very few studies have examined whether career development theories and interest inventories have relevance to individuals from various ethnic backgrounds. Significant variations in the patterns of occupational choice and the aspirations of students in other cultures have been noticed. For example, there is evidence that the environmental, demographic and socio-economic determinants of vocational interests in developing countries, may act in ways which are different from those in highly industrialised Western societies. Espin and Renner (1974) emphasised the involvement of the extended family in shaping the behaviour of youth in Latin America. The basic conflict between traditional Chinese culture grounded in Confucian ideals, and western orientation towards valuing the individual are contrasted in Taiwan by Scaff and Ting (1972). Moracco (1978) has concluded that the self-concept as a basis for vocational choice is not viable for the Middle-East due to limitations related to freedom of choice, available options, and psychological readiness (cf Bingham, 1976). On the other hand, Kisher (1981) found that Super's theory of self-implementation in vocational development, that is, in choosing an occupation, one is, in effect, choosing a means of implementing a

self-concept (Super & Bohn, 1971), was applicable for Fijian students.

Some cultural differences are also reflected in career guidance services. Leventis (1974) described the counselling services in Cyprus, and outlined the effect on the individual of different political and social traditions. Where the group rather than the individual may be the sovereign reality (Esen, 1972, p.794), the validity of Western vocational guidance practices may need to be questioned. The central role of authority in childrearing practices, the need for early crystallization of vocational choices (e.g. Osuji, 1976), and the reliance on education as a means of social mobility may also act as limits on independent decisions regarding vocational interests.

Even across Western societies, there is evidence of cultural influences on vocational interests. With a combined sample of male and female Israeli high school students, Meir and Ben-Yehuda (1976) have reported a different ordering of interests. Moreover, the hexagonal ordering of personality types proposed by Holland (1973) - see Figure 4 - has been found less appropriate for females in the U.S. (Edwards & Whitney, 1972), Israel (Feldman & Meir, 1976) and New Zealand (Tuck & Keeling, 1980).

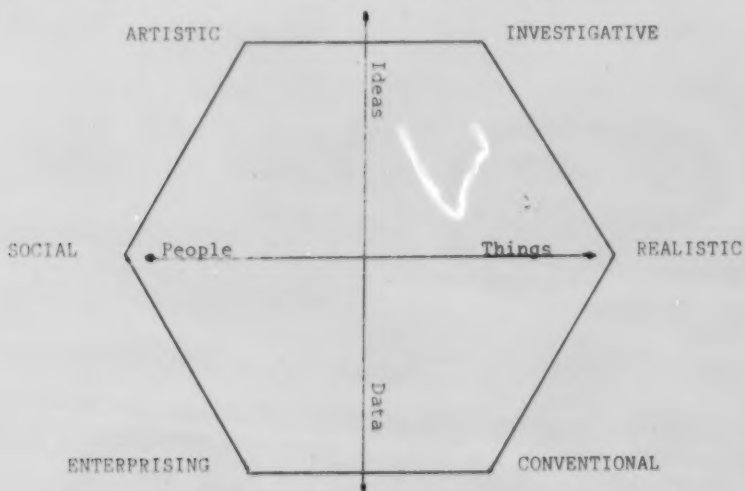


FIGURE 4 HEXAGONAL TYPOLOGY OF PERSONALITY TYPES PROPOSED
BY HOLLAND (1973) AND THE UNDERLYING WORK-TASK
DIMENSIONS

Chu (1975) cited by Harrington and O'Shea (1980, p.246) has reported response differences on the Strong Vocational Interest Blank between American and Chinese students. The importance of cultural influences on the vocational interests of females was also noted.

In contrast, Lamb (1975) produced generally the same basic interest structure, with minority samples of black, Oriental, American, Spanish-speaking American, and white ethnic groups. He noticed that some males chose majors that contradicted their highest interests. Harrington and O'Shea (1980) confirmed the Holland hexagonal model in four different Hispanic sub-cultures : Chicano, Puerto Rican, Cuban, and South American. In that study the personality types were measured by their Harrington-O'Shea System for Career Decision Making.

One theoretical issue which arises from these studies concerns the influence of culture and ethnicity on the patterns of interests. A specific question is the extent to which responses to interest inventories reflect the work-task dimensions underlying vocational interests.

A further issue of practical importance in counselling, guidance and career education is the influence of cultural background on the levels of scores. That is, are there differences in the average scores across the various interest categories? Two studies which utilised the Kuder interest inventories, provide some basis for considering this as a tenable hypothesis.

In Descombe's (1977) French adaptation of the Kuder Preference Record (Kuder, 1960), it was reported that certain interest items were invalid for cultures other than American (1977, p.39). As well, he noticed differences for both boys and girls on several of the original scales, and concluded that Swiss boys and girls had less differing interests than American boys and girls. Epperson and Hammond (1981) administered the Kuder Interest Survey - Form E to 134 native Americans and compared the results to published norms. Significant differences were found on six separate scales for both males and females. They interpreted the observed differences as cultural differences or differences in socialization between the two populations. They also considered that the norms for interest inventories might be limited in their generalizability and usefulness.

Implications

The use of any interest inventory with secondary school students should be within the context of evaluating choices and broadening their career aspirations. Epperson and Hammond (1981, p.214) noted that: "Although interest inventories are seldom the basis of institutional decisions, caution in their use with ethnic minorities is warranted because the information provided by such instruments may, through counselors, directly or indirectly affect important individual decisions". Therefore, they suggested that counsellors working with homogeneous cultural minorities might be well advised to consider the use of alternative norms. Otherwise ethnic adolescents would be channelled into traditional or stereotype areas.

With our large migrant population, these problems should be of concern to vocational counsellors and careers advisers working in Australia. The widespread use and potential influence of interest questionnaires, as well as interest-related career information, is considerable. The major purpose of this report is to examine the interest scores of students and career guidance applicants from an ethnic background.

The first section of this report considers the influence of ethnic background on a standard and widely used interest inventory, the Kuder Preference Record. The second section examines whether self-estimates provide a useful basis for interest measurement among ethnic groups. The final section outlines variety of interest assessment procedures for use in career education.

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A STUDY OF THE KUDER PREFERENCE WITH ETHNIC GROUPS IN AUSTRALIA

This study examines the use of the Kuder Preference Record (KPR), a major vocational interest questionnaire, with ethnic groups in Australia. This questionnaire is widely used in career guidance and education. It has become one of the most popular interest questionnaires. Over 900 references to the KPR have been cited in the Eighth Mental Measurements Yearbook (Buros, 1978), and it has been estimated that over 50 million have been administered in the U.S.A. alone (Lombard, 1973).

The Kuder Preference Record

The KPR measures activity preferences in ten categories (Outdoor, Mechanical, Computational, Scientific Persuasive, Artistic, Literary, Musical, Social Service, Clerical).

OUTDOOR interest means that you prefer work that keeps you outside most of the time and usually deals with animals and growing things. Forest rangers, naturalists, and farmers are among those high in outdoor interests.

MECHANICAL interest means you like to work with machines and tools. Jobs in this area include automobile repairmen, watchmakers, drill press operators, and engineers.

COMPUTATIONAL interest means you like to work with numbers. A high score in this area suggests that you might like such jobs as bookkeeper, accountant, or bank teller.

SCIENTIFIC interest means that you like to discover new facts and solve problems. Doctors, chemists, nurses, engineers, radio repairmen, aviators, and dieticians usually have high scientific interests.

PERSUASIVE interest means that you like to meet and deal with people and to promote projects or things to sell. Most actors, politicians, radio announcers, ministers, salesmen, and shop assistants have high persuasive interests.

ARTISTIC interest means you like to do creative work with your hands. It is usually work that has "eye appeal" involving attractive design, colour and materials. Painters, sculptors, architects, dress designers, hairdressers, and interior decorators all do "artistic" work.

LITERARY interest shows that you like to read and write. Literary jobs include novelist, historian, teacher, actor, news reporter, editor, drama critic, and book reviewer.

MUSICAL interest shows you like going to concerts, playing instruments, singing, or reading about music and musicians.

SOCIAL SERVICE interest indicates a preference for helping people. Nurses, boy or girl scout leaders, vocational counsellors, tutors, ministers, personnel workers, social workers, and hospital attendants spend much of their time helping other people.

CLERICAL interest means you like office work that requires precision and accuracy. Jobs such as bookkeeper, accountant, file clerk, sales clerk, secretary, statistician, and traffic manager fall in this area.

Source: Kuder Preference Record-Administrator's Manual

A rational approach to the measurement of interests is exemplified in the Kuder Preference Record (Kuder, 1960). Here certain basic assumptions were made about the different types of interests and meaningful ways of grouping them. Scales or lists of items were constructed to measure the interest factors based on a criterion of internal - consistency, i.e. pure and refined measures of particular interests.

The Kuder Preference Record is intended primarily for the high school student. There is no time limit and there are no right or wrong answers. It consists of a large number of activities, which are presented in sets of three.

One item illustrates this principle:

- Visit a museum
- Visit an advertising agency.....
- Visit a factory in which computers are made.....

The individual marks the activity which is most liked and the activity liked least of all. The entire questionnaire attempts to determine relative preferences for activities, for example, mechanical vs social activities, outdoor vs clerical etc. There are 168 items assessing interests across the total of ten different categories. With the Kuder Preference Record, the relative strength of each of the ten different interests within an individual is studied. Scores measure the relative extent to which an individual finds satisfaction in various work-task related activities.

Results from the Kuder are compared to occupational profiles. Also, Prediger (1976) has related the Kuder interest scales to the work-task preferences which were previously outlined:

<u>WORK-TASK PREFERENCES</u>	<u>MOST RELEVANT KUDER SCALES</u>
Data	Computational, Clerical
Data-People	Persuasive
People	Social Service
Ideas	Artistic, Literary, Musical, Scientific
Things	Mechanical, Outdoor

Within Australia there has been relatively little published research, but that which does exist shows that Kuder interests are distinct from work aspect preferences (Pryor, 1981), and some occupational norms have also been provided (Morris & Parkinson, 1971).

Although the KPR currently consists of items that are related to a variety of spheres of experience or behaviour, the use of scale in Australia is based on published U.S norms derived in 1956. It is not known to what extent these available norms are relevant only to North America and may prejudice career guidance or vocational development in Australia. Another difficulty is the extent to which men and women may be expected to perform differently on the ten (10) scales (Diamond, 1982) and further the extent to which cultural backgrounds influence scores.

As noted above, Super and Crites (1962) have hypothesised that certain kinds of social environments encourage the development and expression of particular interests, while inhibiting the development or manifestation of others. This study tested the hypothesis that cultural factors exert a direct influence on measured vocational interests.

Method Subjects were career guidance applicants from throughout the state (606 males and 524 women), with a median age of 15.4 years. Subjects who were born in Australia and spoke only English (n=565), were matched in terms of age, sex and locality with those who were either born overseas, or spoke English as a second language. These subjects, from 67 different ethnic backgrounds

were administered the Kuder Preference Record - Vocational (Form CH) as part of a battery of educational-vocational tests. The cultural background of the subjects is indicated in Table 2.

TABLE 2 : CULTURAL BACKGROUND OF THE SAMPLE

America	24	Hungary	8	Scotland	11
Arabic	2	India	10	Singapore	1
Argentine	2	Indonesia	3	Solomon Islands	4
Australia	564	Iran	1	South Africa	17
Belgium	2	Iraq	1	Spain	7
Bolivia	1	Ireland	3	Sudan	1
Bulgaria	1	Italy	54	Sweden	4
Burma	3	Japan	3	Switzerland	1
Cambodia	1	Korea	1	Syria	2
Canada	14	Latvia	2	Tanzania	1
Ceylon	1	Lebanon	10	Thailand	1
Chile	4	Malaysia	17	Trinidad	1
Columbia	1	Malta	5	Turkey	3
Czechoslovakia	3	Mauritius	8	Ukraine	5
Denmark	3	Nauru	3	Uruguay	4
Egypt	8	New Guinea	11	Yugoslavia	31
England	76	New Hebrides	2	Wales	3
Ethiopia	1	New Zealand	13	Other	
Fiji	3	Pakistan	1		
Finland	5	Peru	1		
France	7	Phillipines	4		
Germany	36	Poland	13		
Greece	46	Portugal	4		
Holland	32	Russia	5		
Hong Kong	9	Serbia	1		

Specific details of the statistical tests and comparisons are discussed in the relevant results sections.

Sex Differences on the Kuder Preference Record

Foremost among recent issues in the measurement and reporting of interests is concern with the effects of sex differences (Osipow, 1975). Established sex stereotypes in career choices have implications for interest measurement and vocational guidance (Prediger & Hanson, 1978). The most obvious consequence is for the range of career plans and information made available to clients, (Prediger & Hanson 1974, 1976d).

Sex-stereotyping of occupations has been reported in nationwide studies (Prediger, Roth & Noeth, 1974; Gottfredson, Holland & Gottfredson, 1974); among college students (Shinar, 1975); sixth grade and kindergarten children (Walker, Shlomi & Zimont, 1976); as well as specific groups such as counselling clients (Schollossberg & Goodwin, 1972), or adult women established in full-time employment (Pratt, 1975. Many researchers have demonstrated that not only is sex related to occupational choice, but that women are more interested in person-oriented occupations (e.g. Carter & Strong, 1933; Hall, 1969; Olive, 1973).

Australian studies have also confirmed sex differences in occupational interests (e.g. Connell et al., 1975). Sinclair, Crouch and Miller (1977) studied a cross-section of 876 Sydney students in years 6-12 and reported that girls' aspirations centred around three person-oriented occupational types (i) personal service (e.g. doctor, nurse, medical workers, dentist etc.), (ii) social service (teacher, social worker, lawyer, psychologist, librarian etc.) and (iii) white collar occupations (secretarial, clerical, sales etc)

Differences between males and females on each of the ten KPR categories were examined in an ex post facto design using t-tests. The mean KPR scores for males and females are in Table 3. Significant differences ($p < 0.001$) were observed on all categories except Musical and Clerical.

TABLE 3 : KPR SCORES FOR MALES AND FEMALES

INTERESTS	MALES(N=606)		FEMALES(N=524)		T-test (df=1128)
	Mean	Std Dev.	Mean	Std Dev.	
Outdoor	43.40	14.16	40.34	13.08	3.74***
Mechanical	37.63	12.44	24.96	9.20	19.19***
Computational	27.99	9.70	22.84	9.62	8.92***
Scientific	39.99	12.24	36.08	10.76	5.65***
Persuasive	38.86	11.89	34.33	10.70	6.68***
Artistic	28.39	10.46	31.38	11.09	-4.65***
Literary	19.47	9.08	21.67	8.15	-4.25***
Musical	12.83	7.89	13.84	8.54	-2.06
Social	42.56	13.88	55.21	13.54	-15.43***
Clerical	42.92	13.74	43.21	15.19	-0.33

***p < 0.001

Results are clearly consistent with those of earlier studies, with different populations. The largest differences were observed on Mechanical (males > females) and Social (females > males) and confirm their highly divergent preferences for different types of activities. These results also support the practice in this report of analysing the results of males and females on the KPR separately.

Some consistency across sexes in the pattern of relationships between the interest categories was evident. Correlations between the interest categories are provided for males and females in Table 4. For both groups the highest positive correlation was 0.53 (males) and 0.41 (females) between Computational and Clerical.

TABLE 4 : KUDER PREFERENCE RECORD : INTER-CORRELATION
MATRIX FOR MALES AND FEMALES

INTERESTS	O	Me	Co	Sc	Pe	A	L	Mu	SS	Cl
Outdoor	-	22	-22	25	-41	10	-09	-12	02	-47
Mechanical	17	-	02	30	-28	00	-36	-25	-28	-15
Computational	-21	03	-	27	-02	-29	-09	-15	-34	53
Scientific	29	06	20	-	-36	-22	-23	-25	-17	-07
Persuasive	-50	-10	-12	-27	-	-13	05	01	-09	27
Artistic	17	08	-29	-24	-13	-	-00	13	-04	-25
Literary	-06	-19	-01	-14	01	-15	-	19	12	-12
Musical	-01	03	-00	-30	-04	16	08	-	03	-09
Social Service	06	-14	-11	10	-14	-23	-11	-10	-	-32
Clerical	-47	-11	41	-19	17	-22	-12	-04	-29	-

Correlations for men (N=606) above the diagonal and for women (N=520) below the diagonal.

However, it should also be mentioned that such comparisons between groups are difficult since the Kuder Preference Record is an ipsative scale, that is, it is based on forced choices within items. This means that responses to items, which are forced choice, cannot be independent of one another. As such, the correlations between scales are reduced to having a mean correlation $^{-1}/(n-1)$, with n the number of variables.

Interests and Ethnic Backgrounds

The scores of ethnic groups across the ten interest categories were compared to Australian subjects - males and females separately - in an ex post facto design. For males the largest difference was observed on Outdoor interests with Australian subjects scoring significantly higher on Outdoor. For females the largest differences was observed in Clerical interests. Ethnic groups scored higher on this scale. Overall both Australian males and females scored higher on the Outdoor and Mechanical categories, while ethnic groups (males and females) scored higher on Computational, Literary and Clerical interests (see Table 5).

TABLE 5 : SCORES OF AUSTRALIAN AND ETHNIC GROUPS ON
THE KUDER PREFERENCE RECORD

	Australian Male (N=203)		Ethnic Male (N=303)		T-test (df=604)	Australian Female (N=260)		Ethnic Female (N=260)		T-test (df=518)
	$\bar{x}$	SD	$\bar{x}$	SD		$\bar{x}$	SD	$\bar{x}$	SD	
Outdoor	45.16	13.30	41.65	14.79	3.06**	41.04	13.12	39.43	12.54	1.42
Mechanical	38.09	12.84	37.17	12.04	0.90	25.10	8.87	24.46	8.74	0.82
Computational	26.97	9.73	28.62	9.63	-2.09*	22.40	9.65	22.98	9.24	-0.69
Scientific	39.82	11.87	40.17	12.63	-0.35	36.23	10.11	35.77	10.62	0.52
Persuasive	39.82	12.57	37.91	11.12	1.97*	34.67	11.32	33.75	9.76	0.99
Artistic	27.77	9.95	29.03	10.93	-1.56	31.21	11.45	30.99	9.36	0.23
Literary	19.28	9.64	19.66	8.51	-0.51	20.89	7.77	22.25	7.64	-2.00*
Musical	12.32	7.10	13.35	8.61	-1.60	13.98	9.12	13.38	6.63	0.85
Social Service	42.48	14.14	42.65	13.65	-0.15	56.08	13.56	53.93	12.97	1.84
Clerical	42.06	13.58	43.80	13.88	-1.55	41.31	14.97	44.99	15.15	-2.78**

**p < .01

*p < .05

Results for males and females are consistent to the extent that Outdoor and Clerical interests show large significant negative correlations. That is, it seems possible to speculate that Australians are oriented more towards Outdoor activities, and that those from an ethnic background prefer indoor or office-type activities.

The pattern of scale intercorrelations is indicated in Table 6, and was consistent between Australian and ethnic groups within the same sex. Of the 90 correlation coefficients examined, only the correlation between Persuasive and Literary ($Z=2.57$ $p < 0.01$) for males, and for females the correlation between Musical and Computational ($Z=2.57$ $p < 0.01$) were significantly different.

TABLE 6 : KUDER PREFERENCE RECORD : INTER-CORRELATION MATRIX

(A) SUBJECTS FROM AN AUSTRALIAN BACKGROUND

INTERESTS	O	Me	Co	Sc	Pe	A	L	Mu	SS	Cl
Outdoor	-	24	-17	26	-41	10	-14	-18	-02	-36
Mechanical	24	-	03	34	-31	02	-41	-28	-30	-08
Computational	-13	04	-	27	-03	-25	-12	-23	-33	55
Scientific	32	07	19	-	-33	-24	-29	-23	-25	-00
Persuasive	-48	-08	-15	-23	-	-14	15	-00	-05	19
Artistic	12	13	-23	-22	-13	-	-03	05	-11	-25
Literary	-07	-20	-05	-15	-00	-16	-	20	13	-15
Musical	-04	11	08	-35	-06	21	06	-	09	-17
Social Service	09	-10	-10	03	-21	-21	-09	-05	-	-37
Clerical	-45	-14	43	-15	22	-18	-10	00	-28	-

Decimals omitted. Correlations for males are above the diagonal (N=303) and for females (N=260) below the diagonal.

(B) SUBJECTS FROM AN ETHNIC BACKGROUND

INTERESTS	O	Me	Co	Sc	Pe	A	L	Mu	SS	Cl
Outdoor	-	20	-26	24	-46	11	-04	-07	07	-56
Mechanical	09	-	02	26	-25	-00	-30	-24	-25	-22
Computational	-29	03	-	28	00	-33	-05	-10	-36	50
Scientific	25	06	21	-	-40	-20	-16	-26	-10	-13
Persuasive	-54	-13	-07	-32	-	-11	-06	03	-14	37
Artistic	22	03	-37	-28	-12	-	01	18	02	-27
Literary	-03	-17	01	-14	05	-12	-	18	10	-08
Musical	02	-07	-13	-23	-01	09	11	-	-01	-04
Social Service	01	-20	-13	16	-06	-25	-11	-18	-	-28
Clerical	-49	-08	40	-24	14	-27	-16	-11	-30	-

Decimals omitted. Correlations for males are above the diagonal (N=303) and for females (N=260) below the diagonal.

Each Australian and ethnic subject were matched on the criteria of age, sex and locality, and scores were compared using the non-parametric Wilcoxon matched pairs signed-ranks test. Results for ten ethnic groups are listed in Table 7 for reference. Overall, no particular pattern of differences was evident. However, there were some differences in scores for all the groups. Most scales showed one or two significant differences, except the Social Service scale with no significant difference for any ethnic group.

TABLE 7 : WILCOXON MATCHED-PAIRS SIGNED RANKS TEST - Z SCORES

INTERESTS	American (n=24)	Canadian (n=14)	English (n=76)	German (n=36)	Greek (n=46)	Dutch (n=35)	Italian (n=64)	Malay (n=17)	South African (n=17)	Yugoslav (n=31)
Outdoor	1.52	1.22	0.45	1.49	2.70*	0.50	3.31**	0.69	0.68	1.20
Mechanical	0.55	1.08	0.23	1.00	0.04	1.35	0.02	0.90	0.21	1.83*
Computational	0.80	1.60	0.75	2.00*	1.57	0.54	0.65	1.52	0.44	0.78
Scientific	0.48	0.21	0.07	0.60	0.33	0.34	1.94*	0.63	0.63	1.45
Persuasive	0.62	0.03	2.21*	0.54	0.26	1.13	0.82	2.39**	0.52	0.44
Artistic	0.30	0.55	0.76	0.96	1.01	0.42	0.33	1.56	1.39*	0.65
Literary	0.24	1.92*	0.79	1.67*	0.56	0.15	1.68*	0.42	1.02	1.93*
Musical	0.46	0.72	0.73	1.35	1.77*	0.16	0.46	1.84*	0.84	2.27*
Social Service	0.65	0.00	0.26	1.25	0.74	0.52	0.01	0.09	0.63	0.53
Clerical	0.44	1.97*	0.48	1.65*	0.72	0.54*	1.91*	2.03	0.08	0.35

Differences in the mean scores of the six largest ethnic groups with $N \geq 30$, were also examined separately for males and females (Table 8). Only Outdoor interests showed consistent differences between groups for males ($F(6,443) = 3.38$ $p < 0.01$) and for females ($F(6,358) = 3.5$ $p < 0.01$).

TABLE 8 : MEAN SCORES OF THE LARGEST ETHNIC GROUPS (N=30)

(A) MALES

INTERESTS	Australian N=303		English N=36		German N=13		Greek N=25		Dutch N=20		Italian N=37		Yugoslav N=18	
	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD
Outdoor	45.1	13.2	41.5	13.2	46.8	14.4	38.2	12.0	50.4	18.0	37.6	16.3	39.5	17.5
Mechanical	38.0	12.8	41.2	10.6	33.1	13.7	39.7	12.7	39.9	13.8	36.7	11.3	34.6	12.6
Computational	26.9	9.7	30.1	12.4	32.2	7.8	28.8	9.1	25.9	8.25	29.4	11.4	28.3	8.8
Scientific	39.8	11.8	42.4	13.7	36.1	13.8	42.5	9.9	41.0	13.5	38.4	11.5	35.7	11.8
Persuasive	39.8	12.5	38.5	9.9	38.3	13.4	38.0	11.3	35.4	15.1	39.3	11.4	39.2	9.3
Artistic	27.7	9.9	25.3	10.4	30.9	6.8	27.8	8.1	32.9	13.8	29.7	14.4	32.9	8.1
Literary	19.2	9.6	19.7	6.98	23.8	10.1	18.4	6.3	20.1	14.7	20.7	8.1	19.5	6.3
Musical	12.3	7.0	12.6	8.68	14.1	6.9	10.8	5.6	15.4	14.9	12.1	9.6	14.1	8.0
Social Service	42.4	14.1	38.0	16.31	37.4	10.7	43.4	10.3	48.2	17.5	43.7	15.0	45.0	11.8
Clerical	42.0	13.5	42.9	15.78	44.1	11.7	41.1	13.1	39.7	13.7	48.0	15.2	42.7	11.8

(B) FEMALES

INTERESTS	Australian N=260		English N=42		German N=21		Greek N=21		Dutch N=12		Italian N=17		Yugoslav N=13	
	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD
Outdoor	41.0	13.1	38.9	11.4	34.8	12.5	33.8	10.4	39.5	12.1	29.7	12.6	38.0	12.7
Mechanical	25.1	8.8	23.4	9.2	23.9	9.6	23.5	8.6	22.7	6.3	27.0	11.8	24.5	5.7
Computational	22.4	9.6	21.8	8.4	27.1	11.4	27.5	9.5	20.3	8.4	24.4	7.0	24.2	8.8
Scientific	38.2	10.1	33.0	10.7	38.9	10.9	38.6	9.5	32.3	8.8	30.4	10.2	34.7	11.7
Persuasive	34.6	11.3	34.4	7.9	32.0	11.3	38.4	8.6	34.2	11.4	39.2	11.2	35.6	10.3
Artistic	31.2	11.4	32.1	9.0	27.0	13.3	26.9	7.3	33.3	8.0	32.0	9.1	34.7	9.8
Literary	20.8	7.7	23.5	8.0	25.5	8.1	20.9	6.0	21.6	7.1	18.2	7.4	22.2	8.1
Musical	13.9	9.1	12.4	7.0	12.3	6.5	11.8	6.3	17.3	8.2	13.0	4.6	15.7	5.8
Social Service	56.0	13.5	53.8	13.7	55.8	16.5	56.3	13.6	55.0	9.6	54.2	14.2	48.6	11.3
Clerical	41.3	15.0	44.7	14.0	47.1	14.4	48.9	17.7	44.3	13.9	51.7	16.0	42.7	17.9

** p 0.01

* p 0.05

Conclusions: Results of this study were consistent with earlier findings in indicating significant differences on some interest scales for ethnic groups as a whole compared to Australian subjects. These differences would have greater meaning and implications for individuals when they are considered in terms of percentile norms. For example, on the Outdoor scale the percentile equivalents of the average scores for Australian male subjects was 45% and for ethnic subjects was 35%.

Where significant overall differences did exist, such as on the Outdoor scale for males, these differences were not always constant across particular ethnic groups. Furthermore, differences between ethnic groups and Australian subjects were not as large or as numerous as sex differences in interests.

Nevertheless, when mean scores are converted to percentiles based on the current norms, it seems clear that there is a need for Australian norms which take account of the diverse ethnic composition in Australia (see Table 9).

TABLE 9 : PERCENTILE EQUIVALENTS OF MEAN SCORES FOR
GROUPS ON THE KUDER PREFERENCE RECORD

INTEREST	MALES		FEMALES	
	AUSTRALIAN	ETHNIC	AUSTRALIAN	ETHNIC
Outdoor	45%	34%	77%	74%
Mechanical	29	27	62	59
Computational	65	74	52	60
Scientific	45	46	72	73
Persuasive	48	45	34	31
Artistic	60	66	64	63
Literary	62	67	58	64
Musical	49	53	27	24
Social Service	70	77	73	68
Clerical	41	48	14	20

New Percentile Norms for the Kuder Preference Record

Separate percentile norms for men and women on the Kuder Preference Record are indicated in Tables 10 and 11. These tables indicate the percentile equivalent for a given raw score. Percentile norms for the combined group are also provided in Table 12.

The major advantages of these norms are that for the first time they are derived from a state-wide Australian sample and secondly, they provide a specific ethnic component. This accounts for 50% of the sample and is more indicative of the overall ethnic composition. Subjects from English speaking backgrounds accounted for around 63% of the sample (includes Canadians, British subjects, and US citizens). Obviously, local norms for each culturally homogeneous minority are not possible with around 70 ethnic groups represented in this sample. Nevertheless the specific ethnic component in these norms may go part of the way to overcoming some of the differences in interest patterns.

TABLE 10 : RAW SCORES AND EQUIVALENT PERCENTILE NORMS FOR ALL MALES (N=606)

Percentile Rank	O	No	Co	Sc	Pa	A	L	Mu	SS	CI
96-100%	70+	58+	45+	62+	61+	46+	35+	27+	69+	68+
91-95	63-69	55-57	41-44	57-61	56-60	42-45	31-34	23-26	62-68	63-67
86-90	60-62	52-54	39-40	55-56	51-55	40-41	29-30	22	48-61	58-62
81-85	57-59	50-51	37-38	52-54	49-50	38-39	27-28	20-21	55-57	55-57
76-80	54-56	48-49	35-36	50-51	47-48	36-37	25-26	18-19	52-54	53-54
71-75	51-53	46-47	33-34	48-49	45-46	34-35	24	17	50-51	50-52
66-70	49-50	44-45	32	47	43-44	32-33	22-23	15-16	48-49	48-49
61-65	47-48	43	31	44-46	42	31	21	14	46-47	47
56-60	45-46	41-42	29-30	42-43	40-41	30	20	13	44-45	45-46
51-55	43-44	39-40	28	40-41	39	29	19	12	42-43	43-44
46-50	42	37-38	27	38-39	38	28	18	11	41	40-42
41-45	40-41	35-36	26	36-37	36-37	26-27	17	10	39-40	39
36-40	39	33-34	24-25	35	34-35	24-26	16	9	38	37-38
31-35	36-38	31-32	23	33-34	33	23	15	8	36-37	36
26-30	34-35	29-30	22	31-32	31-32	22	14	-	34-35	34-35
21-25	32-33	27-28	21	30	29-30	20-21	13	7	32-33	32-33
16-20	29-31	24-26	18-20	27-29	27-28	18-19	12	6	28-31	30-31
11-15	26-28	21-23	15-17	25-26	26	16-17	10-11	5	26-27	27-29
6-10	21-25	17-20	13-14	23-24	23-25	14-15	8-9	4	22-25	23-26
1-5	1-20	1-16	1-12	1-21	1-22	1-13	1-7	1-3	1-21	1-22

TABLE 11 : RAW SCORES AND EQUIVALENT PERCENTILE NORMS FOR ALL FEMALES (N=620)

Percentile Rank	O	Ma	Co	Sc	Pe	A	L	Nu	SS	Cl
96-100%	62+	42+	41+	54+	53+	48+	37+	27+	74+	71+
91-95	58-61	37-41	36-40	51-53	50-52	45-47	33-36	23-26	72-73	69-70
86-90	56-57	34-36	33-35	48-50	47-49	43-44	30-32	21-22	69-71	61-64
81-85	53-55	33	30-32	46-47	44-46	41-42	29	19-20	67-68	57-60
76-80	51-52	31-32	29	44-45	42-43	40	27-28	18	66	54-56
71-75	49-50	30	27-28	42-43	40-41	38-39	26	17	64-65	52-53
66-70	47-48	28-29	26	41	38-39	36-37	25	16	62-63	48-51
61-65	45-46	27	24-25	39-40	37	35	24	15	61	47-48
56-60	43-44	25-26	23	38	35-36	33-34	23	14	59-60	44-46
51-55	41-42	24	22	36-37	34	31-32	22	13	58	42-43
46-50	39-40	23	21	34-35	33	30	21	-	56-57	40-41
41-45	37-38	22	20	33	31-32	28-29	20	12	55	38-39
36-40	35-36	21	19	32	30	27	19	11	52-54	36-37
31-35	33-34	20	18	31	29	26	18	10	50-51	34-35
26-30	31-32	19	17	29-30	27-28	24-25	17	9	47-49	32-33
21-25	29-30	18	16	28	25-26	23	16	8	44-46	30-31
16-20	27-28	16-17	15	26-27	24	21-22	14-15	7	42-43	28-29
11-15	24-26	15	13-14	24-25	22-23	18-20	12-13	6	38-41	26-27
6-10	20-23	13-14	10-12	21-23	20-21	16-17	10-11	4-5	31-37	23-25
1-5	1-19	1-12	1-9	1-20	1-19	1-15	1-9	1-3	1-30	1-22

TABLE 12 : RAW SCORES AND EQUIVALENT PERCENTILE NORMS FOR ALL SUBJECTS (N=1130)

Percentile Rank	O	Me	Co	Sc	Pe	A	L	Mu	SS	Cl
96-100%	66+	56+	44+	59+	58+	48+	36+	27+	73+	60+
91-95	61-65	51-55	40-43	55-58	53-57	44-47	32-35	24-26	69-72	64-68
86-90	58-60	48-50	37-39	51-54	49-52	42-43	29-31	22-23	66-68	60-63
81-85	55-57	44-47	34-36	50	47-48	40-41	28	20-21	63-65	56-59
76-80	52-54	42-43	33	47-49	45-46	38-39	26-27	18-19	61-62	53-54
71-75	50-51	40-41	31-32	45-46	43-44	36-37	25	17	58-60	51-52
66-70	48-49	36-39	29-30	43-44	41-42	34-35	24	16	56-57	49-50
61-65	46-47	34-35	28	42	40	32-33	22-23	15	54-55	47-48
56-60	44-45	33	26-27	39-41	38-39	31	21	14	52-53	45-46
51-55	42-43	31-32	25	38	37	30	20	13	50-51	42-44
46-50	40-41	29-30	24	36-37	35-36	29	19	12	47-49	40-41
41-45	38-39	27-28	23	35	33-34	27-28	18	11	45-46	38-39
36-40	36-37	26	22	33-34	32	25-26	17	10	43-44	37
31-35	35	24-25	21	32	31	24	16	9	41-42	35-36
26-30	33-34	22-23	19-20	30-31	29-30	22-23	15	8	38-40	33-34
21-25	30-32	21	17-18	29	27-28	21	14	7	36-37	31-32
16-20	28-29	19-20	16	27-28	26	19-20	13	6	33-35	29-30
11-15	25-27	17-18	14-15	25-26	23-25	17-18	11-12	5	29-32	26-28
6-10	21-24	14-16	12-13	22-24	21-22	14-16	9-10	4	24-28	23-25
1-5	1-20	1-13	1-11	1-21	1-20	1-13	1-8	1-3	1-23	1-22

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INFLUENCE OF ETHNIC BACKGROUND ON SELF-ESTIMATES OF VOCATIONAL INTERESTS¹

Vocational interests have been assessed most frequently by the self report inventory. This is part-and-parcel of a long tradition of direct interest assessment within a trait-factor theory of guidance (see Underwood, 1971). There, the psychological dimensions (i.e. interests) are readily apparent to the respondent, and in many ways the procedures used are analogous to a structured interview containing questions which sample empirically defined or a priori dimensions.

Alternatively, Mischel (1958) has proposed that inventories should be evaluated against self-estimates, contending that "what the person tells us directly turns out to be as valuable an index as any other more indirect sign", (Mischel, 1977 p.248). Theoretical support for the accuracy of self-knowledge in vocational contexts was provided by Super (1957) who theorised that the individual's interests become clearer and more differentiated from adolescence onwards.

Self-Estimates of Kuder Interests

In this section a more direct approach to inventoried interest assessment was investigated, so that, the entire domain of ten Kuder vocational interests is sampled by ten individual questions. Evidence from earlier studies shows that self-estimates and measured vocational interests clearly reflect a common domain of psychometric behaviour (Athanasou & Evans, 1978; 1983).

(1) Adapted from Athanasou & Evans (1983)

In a recent study (Athansou & Evans, 1983) self-estimates of Kuder interests for 218 counselling clients were significantly related ($p < 0.001$) to their scores or percentiles on the Kuder Preference Record - Vocational. Self-estimated interest varied significantly with sex ($p < 0.001$) but not with age or intelligence. The findings support Mischel's (1968) contentions about self-ratings, and further extend Holland's (1973) arguments for the accuracy of vocational self-knowledge (c.f. Super, 1957).

That self-estimated interests varied significantly with sex is consistent with the results of many studies on sex-role stereotyping of careers (e.g. Osipow, 1975, p.130). Despite large differences in some interest categories, men and women are similar in their ability to estimate measured interests on the KPR. The lack of effects of age and intelligence were in agreement with Tierney & Herman (1973).

Further, in situations such as guidance and counselling where subjects can report honestly about themselves, these results suggest that greater use can be made of self-report data. Certainly, it is not suggested that inventories be discarded. On the contrary, the combined use of self-reports as well as inventoried, manifest, tested and expressed interests is recommended. However, self-estimates can be used to provide self-descriptions which are meaningful and directly involved in educational or vocational choice.

Various studies of the validity of scores on the ten self-estimate categories indicated that they were (a) not significantly related to social desirability measures (Median correlation = -0.026), (b) independent of temperament scales such as extraversion, neuroticism etc (c) as generally expected, not related to ability measures - with the exception of Scientific interests, and (d) correlated with other interest inventories such as the Vocational Preference Inventory and (e) results of canonical correlation analysis, which accounted for just over 98% of the total variance (trace), linked similar Kuder interest categories for self-estimated and measured interests (Athanasou, 1980b).

Self-reports of interests indicate patterns rather than absolute levels. The patterns of choices serve as real mediating cognitions for choice or action. In a separate study (Athanasou, 1980b) of the interest patterns of 1611 subjects using this self-estimate procedure,

the hexagonal ordering of occupations posited by Holland's theory (1973) was supported. Furthermore, optimum classification of self-estimates by hierarchical cluster analysis produced a structure also reminiscent of the well-known data-people-things classification, viz. I. Data: Computational, Clerical; II. Things: Outdoor, Mechanical, Scientific; III. People: Persuasive, Social Service, Literary, Artistic, Musical. Taken together, these results strengthen the validity of perceived interests, when they are considered as a total group.

The findings of earlier studies as regards the validity of self-estimates have found application in guidance settings. Self-estimates have been applied to a structured assessment of interests using a card-sort procedure (Athanasou, 1980a); self-estimates have been applied to career exploration guides such as Australian School Leavers Yearbook 1982/83 (Seligman, 1982) and more recently to computer assisted guidance packages.

However these findings also raise a number of questions for further research (a) to what extent do self-reports of interests reflect differences between males and females in various ethnic groups, (b) is the pattern and structure of interests measured by self-reports consistent with a work-task model of interests, and (c) the adequacy of normative data.

Sample: The subjects (n=1022) for this study had an average age of 15-6 years and were drawn from grades 9 to 11 in metropolitan high schools. Subjects comprised 524 males and 498 females, of whom 562 (54.9%) had an Australian background. The remaining 460 (45.1%) were either born overseas or were from an ethnic background. The cultural background of the sample is indicated in Table 13.

TABLE 13 CULTURAL BACKGROUND OF THE SAMPLE

America	2	France	23	Malta	15	Spain	13
Arabic	4	Germany	27	Mauritius	1	Sudan	3
Argentine	3	Greece	105	Mexico	1	Switzerland	1
Australia	562	Holland	8	New Guinea	2	Taiwan	1
Belgium	1	Hong kong	22	New Hebrides	1	Thailand	1
Bolivia	1	Hungary	4	New Zealand	6	Turkey	3
Chile	9	India	3	Phillipines	4	Uruguay	5
Columbia	1	Indonesia	5	Poland	3	Venezuela	2
Czechoslovakia	4	Ireland	3	Portugal	1	Vietnam	3
Denmark	1	Italy	72	Russia	4	Yugoslavia	17
Egypt	3	Japan	2	Scotland	3		
England	25	Korea	6	Singapore	4		
Fiji	2	Lebanon	15	Solomon Is.	1		
Finland	1	Malaysia	4	Sth Africa	9		

Measures: The survey of self-estimates (Athanasou, 1980b) comprised checklist (Part A) and a rating scale (Part B) based entirely upon the types of interest categories in the Kuder Preference Record (Kuder, 1960) viz. Outdoor, Mechanical, Computational, Scientific, Persuasive, Artistic, Literary, Musical, Social Service, Clerical. The checklist was used to familiarise subjects with the Kuder Interests areas, and as an orientation to the rating scale. Only scores from the rating scale were used to assess interests.

Subjects were first asked to study the description of the ten interest categories in the checklist, and indicate the ones liked or disliked. Degree of interest was then rated on the 7-point Likert scale from "very high" (7) to "very low" (1). These self-estimates were examined for reliability in a pilot study and the total pattern of self-estimates was shown to be consistent over a 5-6 month period.

Procedure: Percentile norms were constructed for males and females separately as well as in a combined sample. Means and standard deviations were compared across groups classified by sex and ethnicity. Correlations between the ten interest scales were examined similarly. Mean scores for the largest ethnic groups (≥ 16) were also compared to highlight differences in the order and levels of interests. Finally principal components analysis and hierarchical cluster analysis were used to identify types and patterns of interests.

Self-estimated vocational interests of men and women

Mean scores of males and females on each of the ten vocational interest categories were compared using t-tests (Table 14). Significant differences ($p < 0.05$) were observed on Outdoor, Mechanical, Scientific, Artistic, Social Service and Clerical. The largest differences were on Outdoor, Mechanical, and Social Service. Males scored significantly higher on Mechanical and females scored significantly higher on Social Service. There were fewer significant differences between males and females on self-estimated interests than in the previous study on measured interests.

TABLE 14 : VOCATIONAL INTEREST SCORES FOR MALES AND FEMALES

INTERESTS	MALES (N=524)		FEMALES(N=498)		T-test
	$\bar{x}$	SD	$\bar{x}$	SD	
Outdoor	5.4	1.5	4.7	1.6	7.4***
Mechanical	4.4	1.7	2.6	1.4	17.4***
Computational	4.0	1.7	3.8	1.7	1.5
Scientific	4.1	1.8	3.9	1.8	2.1*
Persuasive	4.1	1.6	4.2	1.6	0.7
Artistic	3.9	1.8	4.4	1.7	3.9**
Literary	3.8	1.7	3.9	1.7	1.3
Musical	3.9	1.8	4.0	1.8	1.0
Social Service	3.6	1.5	4.8	1.5	12.6***
Clerical	3.6	1.8	4.0	1.9	2.8**

*p < 0.05

**p < 0.01

***p < 0.001

The largest correlations between interests (Table 15) were 0.45 for males between Computational and Scientific, and for females 0.54 between Computational and Clerical.

TABLE 15 : SELF-ESTIMATES OF VOCATIONAL INTERESTS : INTER-CORRELATION

MATRIX FOR MALES AND FEMALES

INTERESTS	O	Me	Co	Sc	Pe	A	L	Mu	SS	Cl
Outdoor	-	22	-26	-14	-00	14	-00	02	10	-23
Mechanical	15	-	-10	04	-23	02	-28	02	00	-20
Computational	-12	27	-	41	11	-07	12	00	06	42
Scientific	10	26	25	-	05	-00	17	12	08	07
Persuasive	09	08	02	01	-	23	40	14	31	24
Artistic	16	05	-01	14	15	-	23	27	15	-07
Literary	20	07	01	10	28	26	-	19	22	14
Musical	09	13	-02	03	19	25	19	-	21	-01
Social Service	18	07	07	13	18	05	20	07	-	19
Clerical	-16	02	50	-03	-00	-03	-09	-13	05	-

Correlations for males (N=524) are shown above the diagonal and for women (N=498) below the diagonal.

Significant differences between the inter-correlations for males and females were also noted. These are listed below, and again

TABLE 16 : SIGNIFICANT DIFFERENCES BETWEEN INDEPENDENT CORRELATIONS

INTEREST CATEGORIES	Correlation		Z(p < 0.01)
	Males	Females	
Mechanical/Computational	-.10	.27	-5.0
Mechanical/Persuasive	-.23	.00	-3.5
Mechanical/Literary	-.28	.07	-4.6
Persuasive/Clerical	.24	-.00	3.2

emphasise the differences in preference for Mechanical activities.

Self-Estimated Interests and Ethnic Background

The vocational interests of males and females from ethnic backgrounds were compared separately to these from Australian backgrounds. Variations in the pattern of differences were

TABLE 17 : SELF-ESTIMATES OF VOCATIONAL INTERESTS - INTERESTS - MEANS, STANDARD DEVIATIONS

INTERESTS	Australian Male (N=318)		Ethnic Males (N=206)		T-test	Australian Females (N=244)		Ethnic Females (N=254)		T-test
	$\bar{x}$	SD	$\bar{x}$	SD		$\bar{x}$	SD	$\bar{x}$	SD	
Outdoor	5.6	1.4	5.0	1.6	4.5***	5.0	1.4	4.3	1.6	4.9***
Mechanical	4.4	1.7	4.4	1.8	0	2.5	1.2	2.7	1.6	1.6
Computational	3.8	1.7	4.3	1.7	3.0**	3.6	1.6	4.0	1.7	2.1*
Scientific	3.9	1.8	4.5	1.8	3.3**	3.7	1.8	4.0	1.8	1.7
Persuasive	4.1	1.6	4.2	1.6	0.7	4.3	1.5	4.1	1.7	1.1
Artistic	3.9	1.8	4.0	1.8	0.04	4.4	1.7	4.4	1.8	0
Literary	3.7	1.7	3.8	1.6	0.04	3.9	1.8	3.9	1.7	0
Musical	3.8	1.8	3.9	1.8	0.3	3.9	1.7	4.1	1.8	1.1
Social Service	3.5	1.6	3.7	1.4	0.3	4.9	1.6	4.8	1.5	0.6
Clerical	3.3	1.7	4.1	1.7	4.7***	3.9	1.9	4.0	1.8	0.8

observed for males and females (Table 17). Australian males and females had higher mean scores on Outdoor interests, while males and females from ethnic groups had higher Computational interests. Males from ethnic groups scored higher than the Australian group on Scientific and Clerical interests. These results are consistent with the findings on the Kuder Preference Record which were cited previously.

That is, the largest differences between Australian and ethnic groups tended to occur on Outdoor, Clerical and to some extent Computational interests.

Differences in the mean scores on each category between the largest groups were examined separately for males and females (Table 18):

TABLE 18 : VOCATIONAL INTEREST SCORES OF THE LARGEST (N 30) ETHNIC GROUPS

INTERESTS	MALES						FEMALES						F (2,345)
	Australian (N=318)		Greek (N=48)		T-test	Australian (N=244)		Greek (N=57)		Italian (N=47)			
	$\bar{x}$	SD	$\bar{x}$	SD		$\bar{x}$	SD	$\bar{x}$	SD	$\bar{z}$	SD		
Outdoor	5.6	1.4	4.8	1.7	3.5***	5.0	1.4	4.3	1.5	4.1	1.6	11.0***	
Mechanical	4.4	1.7	4.5	2.0	-0.3	2.5	1.2	2.8	1.7	2.4	1.3	1.49	
Computational	3.8	1.7	4.2	1.9	-1.4	3.6	1.6	3.9	1.8	3.5	1.5	0.97	
Scientific	3.9	1.8	4.2	1.8	-1.0	3.7	1.8	3.7	1.8	3.7	1.7	0.00	
Persuasive	4.1	1.6	4.1	1.7	0	4.3	1.5	4.3	1.7	4.4	1.6	0.08	
Artistic	3.9	1.8	3.7	1.7	0.7	4.4	1.7	4.0	1.0	4.1	1.6	1.61	
Literary	3.7	1.7	3.7	1.4	0	3.9	1.8	4.2	1.7	3.6	1.9	1.43	
Musical	3.8	1.8	3.7	1.9	0.3	3.9	1.7	3.5	2.0	4.0	1.6	1.41	
Social Service	3.5	1.6	3.4	1.4	0.4	4.9	1.6	4.8	1.6	4.9	1.2	0.09	
Clerical	3.3	1.7	4.0	2.0	-2.5*	3.9	1.9	4.4	1.6	3.8	2.0	1.85	

*** $p < 0.001$

** $p < 0.01$

* $p < 0.05$

Only Outdoor interest showed consistent differences between groups for males and females.

TABLE 19 : (A) PERCENTILE NORMS FOR MALES & FEMALES (N=1022)

Scale Scores	0	Me	Co	Sc	Pe	A	L	Mu	SS	Cl
7	87%	95%	96%	94%	95%	93%	95%	94%	94%	95%
6	64	86	85	81	83	79	85	82	81	84
5	47	76	71	66	66	65	73	68	67	70
4	26	61	51	49	44	47	53	51	46	53
3	10	41	30	31	23	28	32	31	24	35
2	5	24	16	18	11	15	17	18	11	21
1	2	8	5	6	3	5	6	7	3	7

(B) PERCENTILE NORMS FOR MALES (N=524)

Scale Scores	0	Me	Co	Sc	Pe	A	L	Mu	SS	Cl
7	83%	92%	95%	93%	96%	94%	96%	94%	98%	96%
6	55	75	84	79	84	83	87	83	91	87
5	37	60	70	64	68	69	75	69	81	74
4	20	40	50	46	45	52	55	51	60	57
3	6	22	28	29	24	32	33	33	34	38
2	3	11	14	17	11	17	17	20	17	23
1	1	4	5	6	3	6	6	8	5	8

(C) PERCENTILE NORMS FOR FEMALES (N=498)

Scale Scores	0	Me	Co	Sc	Pe	A	L	Mu	SS	Cl
7	91%	99%	97%	95%	95%	92%	95%	94%	90%	94%
6	74	97	87	83	81	76	83	82	70	80
5	57	93	73	69	65	60	71	68	52	66
4	33	82	52	52	43	41	51	50	32	50
3	14	62	32	33	23	24	30	30	13	32
2	7	38	18	20	12	12	17	16	5	19
1	2	13	6	7	3	4	6	5	1	7

Conclusions: These results highlight again that there are some significant differences in interests between the Australian subjects and ethnic groups. Differences were related particularly to Outdoor interests, and were largely consistent with the results on measured interests (ie. Kuder Preference Record).

Percentile Norms for Self-estimates of Vocational Interests

These results also emphasise the need in career education and guidance for representative norms. Although no claim for a completely random sample can be made, this survey of metropolitan high school students included the entire range of socioeconomic groups and a wide scattering of geographic regions. More importantly, the specific ethnic component of the sample (ie. 45.1%) is now clearly defined for users of these norms (Table 19).

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PATTERNS AND TYPES OF INTERESTS

Factor analytic techniques have been used with interest questionnaires to develop and define the interest dimensions and to provide support for the validity of the interest scales. These earlier studies have supported Strong's criticism (1943, p.315) of the possibility of finding a few interest factors which will explain all interests

Utilizing the data from this heterogeneous sample of high school students, this study focused on the underlying dimensions and structure of the total variance of the Kuder vocational interest categories. More specifically, a positive response was sought to the question of a people vs things dimension in vocational interests on self-reported interests.

The people-things dimension has been widely recognized in the literature on interest measurement. Roe (1957) hypothesised that this people vs things orientation occurs early in life and the existence of this factor is evident in the early studies of Thurstone (1931) and Strong (1943). The a priori two-dimensional classification of work-tasks, which incorporates the people vs things dimension, served as the hypothesised independent factors to be tested.

Scores from the ten interest scales were used in a principal components analysis of the 10 by 10 correlation matrix. Principal components analysis was used since it was commensurate with the aims of this research. While clearly there is an infinite set of allowable factor solutions, including sets of oblique factors, this study is concerned with attempts by various investigators to describe interests in terms of independent dimensions (Athanasou et al. 1980). Thus the choice of orthogonal analyses was dictated by these conceptual concerns. These scores were also used in a hierarchical cluster analysis of the 10 by 10 squared Euclidean distance matrix-between scales (Johnson, 1967).

Types of Interests

Results of the cluster analysis supported a broad typology of occupational interests. The dendrogram (Figure 5) summarises the results of this analysis. The first major division separates interests into those classified as technological (Outdoor, Mechanical, Scientific) vs non-technological (Persuasive, Artistic, Literary, Musical, Social Service).

The optimum classification was in terms of four groups:

- I. Outdoor
- II. Persuasive, Artistic, Literary, Musical, Social Service
- III. Mechanical, Scientific
- IV. Computational, Clerical

These were consistent with the work-task dimensions of I Things; II. People and Ideas; III. Things and Ideas, and IV. Data.

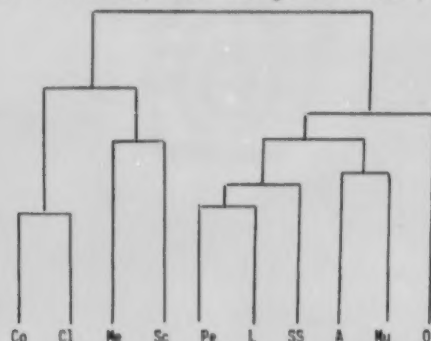


FIGURE 5: HIERARCHICAL CLUSTERING OF SELF-REPORTED INTERESTS

Principal Components Analysis

Correlations among the 10 categories were all low, and the maximum amount of shared variance between any two scales was 21.2%, even though more than two-thirds of the intercorrelations were significant at beyond $P < 0.05$. (Table 20).

TABLE 20 : CORRELATION MATRIX-UPPER TRIANGULAR ELEMENTS (N=1022)

INTERESTS	O	Me	Co	Sc	Pe	A	L	Mu	SS	CI	Mean	Std Dev.
Outdoor	-	.271	-.179	-.006	.036	.122	.081	.052	.049	-.213	5.09	1.60
Mechanical		-	.076	.154	-.091	-.026	-.129	.047	-.148	-.128	3.58	1.86
Computational			-	.337	.070	-.050	.066	-.011	.043	.461	3.95	1.71
Scientific				-	.036	.056	.138	.079	.075	.016	4.04	1.88
Persuasive					-	.197	.345	.170	.262	.116	4.24	1.64
Artistic						-	.249	.289	.142	-.044	4.18	1.87
Literary							-	.197	.218	.026	3.89	1.76
Musical								-	.145	-.089	3.98	1.85
Social Service									-	.152	4.23	1.67
Clerical										-	3.84	1.87

Decimals omitted

The primary purpose of the analysis was to determine the underlying dimensions of self-estimated interest scales. In the principal components solution, three components with eigen values ≥ 1.0 explained slightly more than half the total variance of the ten interest scales. Unrotated solutions were used since they were relatively easy to interpret and because to do otherwise would involve response set variance rotated across legitimate interest factors. Scales having the highest saturations on each factor are listed below:

KUDER INTERESTS CONTRIBUTING MOST TO THE DEVIATION
OF FACTORS (LOADING 0.5)

<u>COMPONENT I</u>		<u>COMPONENT II</u>		<u>COMPONENT III</u>	
Literary	.64	Clerical	.71	Mechanical	.76
Persuasive	.64	Computational	.69	Scientific	.63
Social Service	.56	vs			
Artistic	.50	Outdoor	-.58		

The first component brings together creative, enterprising and social interests. Only mechanical interests loaded negatively on this factor, making it reminiscent of Prediger's (1976) work task dimension of Things vs People. The second factor contrasted indoor

and outdoor work. The third factor emphasised involvement with technical and practical interests (Table 21).

TABLE 21 : PRINCIPAL COMPONENTS SOLUTION (N=1022)

INTERESTS	I	II	III	h ²
Outdoor	02	-58	34	46
Mechanical	-18	-19	76	66
Computational	31	69	41	76
Scientific	31	20	63	54
Persuasive	64	-07	-14	44
Artistic	50	-38	00	40
Literary	67	-17	-05	48
Musical	46	-32	11	33
Social Service	56	-00	-18	35
Clerical	29	71	-06	59
Eigen value	1.98	1.70	1.37	
% Total variance	19.8%	17.0%	13.7%	50.6%

The next sections of this report outline the factor structure for Australian and ethnic groups within each sex. Loadings across each component were compared using Tucker's coefficient of congruence (Harman, 1976). The correlation matrices from which the principal components solutions were derived are shown in Tables 22 and 23

TABLE 22 : CORRELATION MATRIX - ETHNIC MALES AND FEMALES

INTERESTS	O	Me	Co	Sc	Pe	A	L	Mu	SS	Cl
Outdoor	-	22	-13	-02	06	23	16	00	26	-09
Mechanical	22	-	-11	19	-17	-00	-22	10	03	-17
Computational	-09	22	-	33	07	-06	05	03	13	40
Scientific	16	32	30	-	-00	-00	04	08	15	-03
Persuasive	15	13	02	07	-	26	33	13	29	25
Artistic	14	03	-00	16	13	-	24	24	25	-02
Literary	22	07	13	13	23	14	-	09	28	08
Musical	14	19	00	12	23	27	15	-	15	00
Social Service	18	05	01	09	26	06	24	11	-	27
Clerical	-16	-05	47	-02	03	-00	00	-14	05	-

Correlations for males (N=206) are shown above the diagonal, and for females (N=254) below the diagonal.

TABLE 23 : CORRELATION MATRIX - AUSTRALIAN MALES AND FEMALES

INTERESTS	O	Mu	Co	Sc	Pv	A	L	Mu	SS	Cl
Outdoor	-	23	-32	-19	-05	09	-11	-00	02	-28
Mechanical	10	-	-10	-04	-27	03	-32	-02	-01	-23
Computational	-12	33	-	45	13	-07	15	-01	01	42
Scientific	07	17	18	-	09	-01	25	15	03	10
Persuasive	-01	03	04	-04	-	20	44	15	32	23
Artistic	20	09	-03	11	18	-	22	29	08	-11
Literary	19	08	-11	07	34	38	-	25	19	17
Musical	06	03	-06	-07	15	34	24	-	24	-02
Social Service	18	10	14	18	11	05	17	02	-	15
Clerical	-15	13	34	-04	-05	-07	-18	-12	06	-

Correlations for males (N=318) are shown above the diagonal,
and for females (N=244) below the diagonal.

(i) Females

Three factors accounted for 50.8% of the total variance of Australian females (Table 24) and four factors accounted for 60.1% of the total variance for females from an ethnic background.

The three components for Australian females were identified as I. Literary-Artistic, II. Computational-Mechanical and III. Persuasive vs Scientific-Outdoor interests. For ethnic females, the four factors were identified as I. General factor II. Computational-Clerical III. Mechanical vs Social and IV. Artistic interests.

TABLE 24 : PRINCIPAL COMPONENTS SOLUTIONS FOR AUSTRALIAN
FEMALES (N=244) AND ETHNIC FEMALES (N=254)

INTERESTS	I	II	III	h ²	I	II	III	IV	h ²
Outdoor	45	07	-51	44	52	-33	-09	-35	51
Mechanical	07	62	-09	40	51	16	-54	-24	64
Computational	-33	79	18	77	25	84	-06	03	79
Scientific	12	42	-53	48	53	28	-46	-04	58
Persuasive	45	17	52	51	53	-07	40	00	46
Artistic	63	19	08	45	43	-13	02	70	69
Literary	75	13	13	61	55	00	35	-13	44
Musical	49	-01	37	38	53	-24	-08	45	56
Social Service	25	44	-27	33	45	-04	50	-32	57
Clerical	-47	57	30	64	-03	77	37	12	74
Eigen value	2.06	1.81	1.21		2.17	1.61	1.21	1.02	
% Total variance	20.6%	18.1%	12.1%	50.8%	21.7%	16.1%	12.1%	10.2%	60.1%

Component I for the ethnic group was most closely related to components I and II of the Australian group, with Tucker coefficients of 0.71 and 0.65 respectively. The second and third components for the ethnic group were closely related to their corresponding components in the Australian group with Tucker coefficients of 0.74 and 0.50 respectively. Despite, the differences in the principal components there was some agreement in factor loadings. This centred around Clerical and Computational interests.

(ii) Males

Three factors accounted for 53.8% of the total variance for Australian males. These were identified as I. Persuasive-Literary-Clerical, II. Artistic vs Computational, III. Mechanical-Scientific interests. Three factors also accounted for 52.5% of the total variance for ethnic males. These were identified as : I Social-Persuasive-Artistic, II. Outdoor vs Clerical and III. Scientific-Mechanical interests (Table 25).

TABLE 25 : PRINCIPAL COMPONENTS SOLUTION FOR AUSTRALIAN MALES (N=318)
AND ETHNIC MALES (N=206)

CATEGORIES	AUSTRALIAN SUBJECTS				ETHNIC SUBJECTS			
	I	II	III	h^2	I	II	III	h^2
Outdoor	44	46	-01	41	30	61	07	47
Mechanical	49	08	52	52	-17	49	60	64
Computational	-57	-50	33	69	31	-63	45	70
Scientific	-48	-21	64	70	17	-10	75	61
Persuasive	-62	35	-30	61	66	-07	-25	51
Artistic	-15	63	22	48	53	42	-12	48
Literary	-66	31	-05	56	62	04	-27	46
Musical	-31	53	37	53	35	28	21	25
Social Service	-36	40	-11	30	70	09	18	53
Clerical	-56	-37	-25	52	44	-59	02	54
Eigen value	2.45	1.75	1.17	53.8%	2.18	1.66	1.39	52.5%
% Total variance	24.5	17.5	11.7		21.8%	16.6%	13.9%	

Tucker coefficients of congruence for the three corresponding components were 0.76, 0.78 and 0.84. It was obvious that both Australian males and those from an ethnic background provided basically the same pattern of responses.

DISCUSSION

Findings for both males and females were consistent in producing both patterns of interests and choices of interests supportive of the work-task dimensions. The contrast between Social and Mechanical interests (People vs Things) was evident in a number of analyses, as was the contrast between Outdoor vs Clerical/Computational and Scientific vs Persuasive (Ideas vs Data). Finally there was close agreement in the pattern of loadings across Australian and ethnic groups for both males and females.

One of the implications for test usage is that it would appear that interest patterns are fairly consistent and robust across cultures, even though there are differences in the levels or mean scores on particular categories. Thus, as an alternative approach to interest measurement, self-estimated interests, provide a structure which is interpretable in terms of an established classification of work-tasks.

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APPROACHES AND TECHNIQUES FOR THE MEASUREMENT OF CAREER INTERESTS

The purpose of this section is to outline some practical approaches for the measurement of career interests. These techniques are intended for heterogeneous groups. They focus on self-estimates and operate within the Kuder classification of vocational interests. In part, this reflects the results which indicated fewer and smaller differences on self-estimated than measured interests across sexes as well as consistent patterns or dimensions of interests across cultures.

The techniques outlined here include approaches suitable for (a) individual measurement, (b) group measurement and classroom use (c) career education and (d) computer-assisted guidance. These are mainly for use in the exploratory phase of career development, and as a basis for widening the career choices of adolescents. Their main use will be by careers teachers, careers advisers, counsellors and guidance personnel.

The Kuder Interest Card Sort has been prepared for careers advisers who wish to clarify interests without the need for a detailed, time-consuming interest inventory. It is designed for older and above average ability clients, as a process of self-clarification and orientation to vocational exploration.

The Kuder Interest Survey is a vocational interest rating scale which provides an initial or partial assessment of vocational preferences. The interest survey is proposed for use in individual vocational counselling interviews.

A career exploration guide and set of career exercises has also been prepared to help school leavers think carefully about occupations in terms of interests, abilities, education and values.

Finally, the development of a computer-assisted vocational exploration package is described. The computer is an obvious tool for exploration of individual differences and determining their relationship to occupational requirements. One of the most obvious advantages is utilization of the memory-storage and retrieval capacities of electronic data processing. More important is that computers provide potential for an unbiased, consistent, replicable and structured vocational guidance treatment.

The Kuder Interest Card Sort - an Interest Survey Procedure¹

The idea of an interest-card-sort technique was derived from the vocational card sorts of Bolger (1973), Dewey (1974) and Dolliver (1976). Although such techniques have been used as a means of classifying occupations or activities- as with, for example, the Pictorial Interest Guide (Crowley, 1974)- few attempts have so far been made directly to sort interest categories.

The importance which may be attached to expressions of specific interest clearly varies with the maturity of the individual, but after 16 or 17 years of age, interests (especially inventoried interests) show considerable stability (e.g. Strong, 1943, p.657; Schmidt and Rothney, 1953). Hopson (1968) commented that 'after 18, with students certainly, there would appear to be little advantage in using an inventory as opposed to asking after their interests', though he considered that 'counsellors would still probably benefit from using inventories with less educated clients over the age of 18'.

Materials

There are ten cards containing the titles of interest categories on the front, and a description of the interest area on the back of the card. Descriptions of the Kuder Interest categories used in the card sort were derived from the Kuder Preference Record. In addition there are three cards marked 'Like', 'Dislike', and 'Undecided', which are used in the sorting process.

Procedure

A brief orientation (e.g. Campbell, 1977, p.87) is in order though it will vary according to the demands and constraints of the interview. The procedure (e.g. Dolliver, 1967, p.917) is described to clients as one way of helping them to talk about and organise their thinking

¹ Adapted from Athanasou (1980a).

about occupations. Actual instructions involved in the administration involve (a) sorting the cards into 3 groups ('Like', 'Dislike', 'Undecided',) (b) considering and discussing the reasons for individual rejection (i.e. 'Dislike'). (c) determining specific reasons for acceptance (i.e. 'Like') and establishing a hierarchy, (d) considering some occupational reinforcers by means of a work values checklist such as that derived from Super (1969), and (e) recording client comments and reactions. The groupings may also be analysed for consistency within Prediger's (1976) work-task dimensions.

The sorting customarily forms part of the guidance interview, and may take anywhere from 5 to 45 minutes depending on how verbally fluent the client is.

Uses

Goldman (1961) differentiated the uses of tests in counselling according to their informational and non-informational purposes, and the functions of KICS can be differentiated in the same way. In informational terms the card sort can help (a) to identify the focus of the individual's concern, and (b) to structure the parameter within which career decisions are to be made and help with identification of possible courses of action. In non-informational terms, it can (c) stimulate thinking and (d) serve as part of the groundwork for later counselling. Tyler (1961, p.196) commenting on her experience with a card sort, stated that "What one gets out of the situation is a highly complex delineation of some aspects of the subject's personality that are not revealed by the psychological testing methods we ordinarily use".

Generally KICS should only be used within the larger context of careers guidance. As a vocational exploration technique it is intended to be used in conjunction with (a) classifications of careers in interests categories, and (b) occupational handbooks; and/or as a prelude to a more extensive investigation of interests, values and abilities. As a structured interview procedure, the interest card sort is designed to proceed more directly than an inventory or interview "to the identification of important vocational counselling topics for discussion" (Dolliver, 1967, p.920).

The Kuder Interest Survey¹

The Kuder Interest Survey (KIS) was prepared as a simpler alternative to the administration/scoring of the Kuder Preference Record - Vocational. It is currently used as a basis for facilitating and encouraging exploration of occupational fields by permitting individuals to express feelings about a standardised list of interests.

The Development of the KIS has been guided by evidence for the validity and utility of direct self-reports (e.g. Mischel 1968; 1977). Mischel has consistently argued that inventories should be evaluated against self-estimates, contending that "what the person tells us directly turns out to be as valuable an index as any other more indirect sign", (Mischel, 1977 p.248). In those contexts where self-estimates have been compared to other assessments, they have fared relatively well: e.g. adjustment (Mosier, 1964); depression (Shapiro, 1979); personality traits (Peterson, 1965, Burdsal & Schwarz, 1975); activity preferences (Holland & Nicholls, 1964); high school achievement (O'Hara, 1966); vocational choice (Dolliver, 1969; Borgen & Selling, 1978). Theoretical support for the accuracy of self-knowledge in vocational contexts was provided by Super (1957) who theorised that the individual's interests become clearer and more differentiated from adolescence onwards.

Materials

The materials for the KIS include the survey form (Figure 6) a two-page questionnaire (not reusable), and a profile form (not reusable). Copies of the KIS are available in 5 languages (Figure 6).

The survey comprises both a checklist (Part A) and a rating scale (B) based entirely on the interest categories in the KPR manual. The checklist is used to familiarise subjects with the Kuder interest areas, and as an orientation to the rating scale. Only scores from the rating scale are used presently to assess interests.

Subjects are first asked to study the description of the 10 interest categories in the checklist and indicate the ones liked or disliked. Degree of interest is then rated on a 7-point Likert scale from "very high" (7) to "very low" (1).

(1) Adapted from Athanasou (1980b).

The respondents' KIS scores can also be reported on a specially designed 'profile' (Figure 6). This is a pre-printed form on which raw scores are entered and provides percentile norms for males and females as well as both groups combined.

Administering the Survey

The KIS is simple to administer. It can be given individually, or in groups, and is largely self-administering. To avoid the problem of poorly motivated respondents it is important to emphasise that this survey should be administered within professional educational or vocational counselling contexts. The respondent should be (a) asked to read the instructions, (b) reminded to complete both sides and (c) provide the information relating to personal data at the bottom of the second page. The time required for most respondents to complete the survey varies up to 10 minutes.

Scoring is done by hand. Weights from (7) to (1) are allocated to each response category, as indicated in the table below.

SCORING WEIGHTS

Response Category	Scoring Weights for the KIS ratings
Very high	7
High	6
Above average	5
Average	4
Low average	3
Low	2
Very low	1

Interpretation of results is based on the complete profile, rather than merely overemphasising the highest ratings. Reference is made to both raw scores and percentile norms in order to provide information about the pattern of interests in terms of (a) the overall level of interests (b) a subjective ordering of preferences and (c) levels of interest.

Counselling uses

The KIS is primarily used in counselling the individual student or employee. Its most desirable use is as a prelude to discussions between student and counsellor, and as a starting point for reference to classifications of careers into interest categories, such as 'Job Guide' or occupational handbooks, such as 'Background to Careers'.

The KIS is not used for vocational prediction and does not try to fit the person to the job. KIS is one means of indicating to clients their pattern of interests by encouraging discussion and exploration of general overall trends and response consistency.

Computer-Assisted Vocational Exploration

The section describes a complete Fortran package for computer-assisted vocational exploration of an occupational file, as well as including a structured guidance component.

Kuder's (1960) theoretical classification of interests (Outdoor, Mechanical, Social Service, Clerical etc) provided a useful starting point. This identifies vocational activities which are reinforcing for an individual. When qualified by educational or training requirements, a list of options can be examined in terms of Super's (1973) work values (altruism, creativity, independence, stimulation, achievement, management, security, prestige, money, surroundings, associates, supervisors, variety).

This FORTRAN program provides a structured presentation within a trait - factor theory of vocational guidance. It is interactive and self-adaptive, being user - friendly, and there are no unexpected actions that may cause program failures.

This initial section of the program provides a general interview format and examination of currently considered occupational alternatives. Users are introduced to Kuder's vocational interest categories and then undertake a validated self-rating procedure (e.g. Athanasou and Evans, 1983). Self-ratings are reported to subjects in terms of percentile norms based on a sample of 1647 high school students. Holland (1973) interest codes are calculated from self-ratings by six multiple regression equations (N=571) and used to search 431 occupations from a file. Separate three-letter Holland codes for men and women are calculated. The codes can be varied by the user. As well, any one

FIGURE 6: KUDER INTEREST SURVEY, TRANSLATED
COPIES AND PROFILE SHEET

KUDER INTEREST SURVEY

Listed below are some descriptions of interests which give you ideas concerning your likes and dislikes for different types of work. Read the short description of each interest category and decide whether these statements apply to you. The occupations named in each category are only examples. There are many others. You may also find that many school subjects or leisure time activities fit into your high interest areas.

Try and decide whether you have an interest in each activity, then place a tick ☒ in the squares marked YES or NO. Use the question mark only if you cannot make up your mind.

Part A: Checklist

	YES	NO	?
<u>OUTDOOR</u> interest means that you prefer work that keeps you outside most of the time and usually deals with animals and growing things. Forest rangers, naturalists, and farmers are among those high in outdoor interests.	☐	☐	☐
<u>MECHANICAL</u> interest means you like to work with machines and tools. Jobs in this area include automobile repairmen, watchmakers, drill press operators, and engineers.	☐	☐	☐
<u>COMPUTATIONAL</u> interest means you like to work with numbers. A high score in this area suggests that you might like such jobs as bookkeeper, accountant, or bank teller.	☐	☐	☐
<u>SCIENTIFIC</u> interest means that you like to discover new facts and solve problems. Doctors, chemists, nurses, engineers, radio repairmen, aviators, and dietitians usually have high scientific interests.	☐	☐	☐
<u>PERSUASIVE</u> interest means that you like to meet and deal with people and to promote projects or things to sell. Most actors, politicians, radio announcers, ministers, salesmen, and shop assistants have high persuasive interests.	☐	☐	☐
<u>ARTISTIC</u> interest means you like to do creative work with your hands. It is usually work that has "eye appeal" involving attractive design, colour and materials. Painters, sculptors, architects, dress designers, hair-dressers, and interior decorators all do "artistic" work.	☐	☐	☐
<u>LITERARY</u> interest shows that you like to read and write. Literary jobs include novelist, historian, teacher, actor, news reporter, editor, drama critic, and book reviewer.	☐	☐	☐
<u>MUSICAL</u> interest shows you like going to concerts, playing instruments, singing, or reading about music and musicians.	☐	☐	☐
<u>SOCIAL SERVICE</u> interest indicates a preference for helping people. Nurses, boy or girl scout leaders, vocational counsellors, tutors, ministers, personnel workers, social workers, and hospital attendants spend much of their time helping other people.	☐	☐	☐
<u>ADMINISTRATIVE</u> interest means you like office work that requires precision and accuracy. Jobs such as bookkeeper, accountant, file clerk, sales clerk, secretary, statistician, and production manager fall in this area.	☐	☐	☐

Part B: Interest Profile

Like most people you are probably higher in some areas of interest or work. These are the activities you like best. Next to each of the work interests below, indicate how much you like it by placing a ☒ in one of the squares.

<u>My interests:</u>	Very High	High	Above Average	Average	Below Average	Low	Very Low
Outdoor	☐	☐	☐	☐	☐	☐	☐
Mechanical	☐	☐	☐	☐	☐	☐	☐
Computational	☐	☐	☐	☐	☐	☐	☐
Scientific	☐	☐	☐	☐	☐	☐	☐
Persuasive	☐	☐	☐	☐	☐	☐	☐
Artistic	☐	☐	☐	☐	☐	☐	☐
Literary	☐	☐	☐	☐	☐	☐	☐
Musical	☐	☐	☐	☐	☐	☐	☐
Social Service	☐	☐	☐	☐	☐	☐	☐
Clerical	☐	☐	☐	☐	☐	☐	☐

Name.....Age.....Sex ☐ Male ☐ Female
 Occupation.....Today's date...../...../.....

Reproduced by J. Athanassou from the Kuder Preference Record by permission of the publisher Science Research Associates Pty Ltd.

Kuder Interest Survey

(Arabic)

استفتاء كيدر للاهتمامات *

فيما يلي تجد بعض المواصفات التي تعجبك فكره مما يعجبك وما لا يعجبك في مختلف الاعمال .
 افرا الوصف المختصر من كل مجيئه قبل ان تقر ايها ينطبق عليك . والاعمال المذكوره في
 كل مجيئه هي مجرد امثله فقط . فهناك الكثير من الاعمال الأخرى ، وربما تجد ايها ان
 كثيرا من المواد الدراسية او نشاطات اوقات الفراغ يمكن ان تدخل في نطاق اهتمامك .
 حاول ان تقر اولاً اذا كنت تهتم باحدى هذه النشاطات ثم ضع علامه ☒ في المربع المناسب
 اما نعم او لا ، او ضع علامه استفهام (؟) اذا لم تستطع الوصول الى قرار .

الجزء الأول :

الاهتمامات الخارجيه : معناها انك تغفل العمل الذي يدفعك الى
 البقاء في الخلاه معظم الوقت وعاده يكون في العناية بالحيوانات
 او بالزراعه ، في الحمايات او الطبيعه والفلاحة تقع ضمن من ينفلسون
 الاهتمامات الخارجيه *

نعم لا ؟

☐ ☐ ☐

الميكانيكا : ومعناها انك تغفل العمل في الآلات واد وانها والوظائف
 في هذا المجال تتضمن اصلاح السيارات والساعات وحال المكينات
 والمهندسين *

☐ ☐ ☐

الكوسيتير : واهتمامك بها يعني انك تحب العمل في الارقام وحصولك
 على درجات عاليه في هذا المجال معناه انك تحب الوظائف مثل موظف
 حسابات ، محاسب ، او صراف في بنك

☐ ☐ ☐

الحلميه : ومعناها انك تحب اكتشاف حقائق جديده وحل المشكلات
 الحلميه . فالأطباء والصيادلة والمهندسين وعلما اجهزة
 الراديو والطيارين وصمموا الرجيم عاده ضمن هؤلاء المهتمين بالعلم *

☐ ☐ ☐

الاقتصاد : ومعناها انك تحب ان تقابل وتقوم باقناع الناس والتعامل
 معهم ، او انك تقوم بحمل الشروط او انشأ لبيعتها . ومعظم
 الصنطين ومحترفي السياسه والادامين والوزراء لديهم مواهب الاقتصاد *

☐ ☐ ☐

الفنيه : ومعناها انك تحب ان تعمل عملا انشائيا او خلق فني
 بيدك . انه عاده ذلك العمل الذي يجذب النظر ، وفيه تصميم جذاب
 او الزمان او مواد . فالرسميون والتمثالون ومهندسي المباني وصمموا

☐ ☐ ☐

الماليس ، وصنفو الشعر وصنمو الد ينور عليهم يحطون اصلا فنيسه نعم لا ؟

☐ ☐ ☐

الاصال الادبيه : اهتمامك بها يدل على انك تحب القراءة والكتابة

والاصال الادبيه تتضمن كتاب القصة والرواية والمؤرخون ، المدرسون

المطلون ، مندوبو الصحف ، رؤساء التحرير ، نقاد المسرح ومراجعو

☐ ☐ ☐

الكتب

الموسيقى : يدل الاهتمام بها هنا على انك تحب الذهاب الى الحفلات

☐ ☐ ☐

الموسيقى ، الغناء ، او القراءة عن الموسيقى والموسيقين *

الخدمات الاجتماعية : واهتمامك بها يدل على تفنيك خدمة الناس

فالممرضات ورؤساء فرقة الكشافه والمرشدات ومستشارو الوظائف

والمحاسبون ورجال الدين وموظفو الخدمات والاعماليون الاجتماعيون

☐ ☐ ☐

وموظفو المستشفيات يقضون معظم اوقاتهم في خدمة الناس *

الوظائف التنابيه : تفنيك هنا معناه انك تحب العمل المكتبي الذي

يتطلب الدقة والكفاءة . والوظائف مثل كاتب الحسابات ، المحاسب

موظف الارشيف ، كاتب المبيعات ، السكرتاريون ، موظف الاحصاء *

☐ ☐ ☐

ومندوبو الحركة كلهم يدخلون ضمن هذا المجال *

الجزء الثاني : ب

كمعظم الناس ، ربما تغفل بعد المجالات او بعدة الاصال . وهذه

هي النشاطات التي تغفلها عن غيرها والمردود وضع علامه ☒ لكسى

تبين مقدار تفنيك لهذا المجال *

اهتماماتي : مرتفع جدا مرتفع فوق المتوسط تحت المتوسط ضعيف جدا

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الاسم السن الجنس ☐ ذكر ☐ انثى

الخليفه تاريخ اليوم
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Kuder Interest Survey

(Greek)

ΕΠΙΧΕΙΡΗΣΙΑΚΗ ΑΝΑΓΝΩΡΙΣΤΕΑ ΚΥΔΕΡ

Ο κατωτέρω κατάλογος δίνει μερικές περιγραφές ενδιαφερόντων, που μπορούν να σας δώσουν ιδέες σχετικά με το τι σας άρεσει και τι δεν σας άρεσει, στον άφορμα τα διάφορα είδη εργασίας. Διαβάστε την μικρή περιγραφή της κάθε κατηγορίας ενδιαφερόντων και αποφασίστε ποιά από τα αναφερόμενα σας άρμόζουν. Τα επαγγέλματα που αναφέρονται σε κάθε κατηγορία, είναι μόνο παραδείγματα. Υπάρχουν και πολλά άλλα. Μπορεί να βρείτε επίσης ότι πολλά σχολικά μαθήματα και δραστηριότητες της αναπαύσεώς σας, ταιριάζουν πολύ στα ενδιαφέροντά σας.

Προσπαθήστε να αποφασίσετε αν έχετε ενδιαφέροντα σε κάθε δραστηριότητα και βάλτε ένα σημάδι ☒ στα τετραγωνάκια του ΝΑΙ ή του ΟΧΙ. Χρησιμοποιήστε το έρωτηματικό μόνο αν δεν μπορείτε να αποφασίσετε.

Μέρος Α: Πίνακας Έλέγχου

ΝΑΙ ΟΧΙ ?

ΥΠΟΧΡΕΩΤΙΚΟ ενδιαφέρον σημαίνει ότι προτιμάτε μια δουλειά που θα σας κάνει να είστε έξω τον περισσότερο καιρό και συνήθως ασχολείται με ζώα και φυτά ή δέντρα. Οι δασοφύλακες, αυτοί που ασχολούνται με τη φύση και οι αγρότες, βρίσκονται σε πολύ ψηλό σημείο στον κατάλογο του ύπαριθμου ενδιαφερόντων.

☐ ☐ ☐

ΜΗΧΑΝΙΚΟ ενδιαφέρον σημαίνει ότι σας άρεσει να δουλεύετε με μηχανές και εργαλεία. Δουλείς σε αυτή την περιφέρεια περιλαμβάνουν τους τεχνίτες επιδιορθώσεων αυτοκινήτων, ωρολογοποιούς, χειριστές τρυπανιών, και μηχανικούς.

☐ ☐ ☐

ΥΠΟΛΟΓΙΣΤΙΚΟ ενδιαφέρον σημαίνει ότι σας άρεσει να εργάζεστε με αριθμούς. Προτίμηση σε αυτή την περιφέρεια υποθέτει ότι μπορεί να σας άρεσει εργασία για υπάλληλος γραφείου, λογιστής ή υπάλληλος σε θυρίδα εισπράσεων και πληρωμών τραπεζής.

☐ ☐ ☐

ΕΠΙΣΤΗΜΟΝΙΚΟ ενδιαφέρον σημαίνει ότι σας άρεσει να ανακαλύψετε νέα δεδομένα και να λύσετε προβλήματα. Οι γιατροί, φαρμακοποιοί, νοσοκόμοι και νοσοκόμες, μηχανικοί, τεχνίτες επιδιορθώσεων ρολοφώνων, αεροπόροι και διαίτολόγοι, έχουν συνήθως πολύ υψηλό επιστημονικό ενδιαφέρον.

☐ ☐ ☐

ΠΡΟΙΟΔΕΥΤΙΚΟ ενδιαφέρον σημαίνει ότι σ'ας άρέσει νά συναντάτε καί νά ασχολείσθε μέ ανθρώπους καί νά προωθεύτε προγράμματα καί πράγματα πρὸς πώληση. Οἱ περισσότεροι ἡθοποιοί, πολιτικοί, ἐκφωνητές ραδιοφώνου, ἱερεῖς, πωλητές καί ἐμποροὑπάλληλοι, ἔχουν μεγάλο πεισιτικό ἐνδιαφέρον.

☐	☐	☐
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ΚΑΛΛΙΤΕΧΝΙΚΟ ἐνδιαφέρον σημαίνει ότι σ'ας άρέσει νά κάνετε κάποια δημιουργική δουλειά μέ τὰ χέρια σας. Συνήθως εἶναι μία δουλειά πού "ἐκδέει" τὸ μάτι, καί πού συνεπάγεται ὠρατά, ἐκπαιδευτικά σχέδια, χρώματα καί ὕλινά. Οἱ ζωγράφοι, γλύπτες, ἀρχιτέκτονες, σχεδιαστές μῦθας, κουρεῖς, καί ἐσωτερικοί διακοσμητές, κάνουν ὅλοι "καλλιτεχνική" δουλειά.

☐	☐	☐
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ΤΟ ΛΟΓΟΤΕΧΝΙΚΟ ἐνδιαφέρον δείχνει ότι σ'ας άρέσει νά γράφετε καί νά διαβάζετε. Οἱ λογοτεχνικές δουλειές περιλαμβάνουν τοὺς συγγραφεῖς μυθιστορημάτων, τοὺς ἱστορικούς, δασκάλους, ἡθοποιούς, ἀνταποκριτές νέων, ἐκδότες, κριτικούς θεάτρου καί κριτικούς βιβλίων.

☐	☐	☐
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ΤΟ ΜΟΥΣΙΚΟ ἐνδιαφέρον σημαίνει ότι σ'ας άρέσει νά πηγαίνετε σὲ συναυλίες, νά παίζετε μουσικά ὄργανα, νά τραγουδάτε ἢ νά διαβάζετε σχετικὰ μέ τὴ μουσική καί τοὺς μουσικούς.

☐	☐	☐
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Τὸ ἐνδιαφέρον ΚΟΙΝΩΝΙΚΗΣ ΥΠΗΡΕΣΙΑΣ δείχνει ότι προτιμᾶτε νά βοηθάτε ἄλλους ἀνθρώπους. Οἱ νοσοκόμες, οἱ ἀρχηγοὶ προσκόπων καί ὁδηγῶν (προσκοπείων), οἱ σύμβουλοι καριέρας, δάσκαλοι, ἱερεῖς, οἱ ἐργαζόμενοι στήν ὑπηρεσία προσωπικοῦ, κοινωνικοὶ λειτουργοί, καί ὅσοι ἐργάζονται σὲ νοσοκομεία, περνοῦν πολλή ἀπὸ τὸν καιρὸ τοὺς βοηθώντας ἄλλους ἀνθρώπους.

☐	☐	☐
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ΥΠΟΛΟΓΙΣΤΙΚΟ ἐνδιαφέρον σημαίνει ότι σ'ας άρέσει ἡ δουλειά τοῦ γραφείου, πού χρειάζεται ἀκρίβεια. Τέτοιες δουλειές εἶναι τοῦ ὑπαλλήλου λογιστηρίου, τοῦ λογιστῆ ὑπαλλήλου ταξινομήσεως, ὑπαλλήλου πωλήσεων, γραμματέα, στατιστικο-λόγου καί διευθυντῆ συναλλαγῆς, ἡντίς οἱ δουλειές βρίσκονται σ' αὐτὴ τὴν κατηγορία.

☐	☐	☐
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Ερώτησις κατωτέρω: Ενδιαφερόντων

"Όπως οἱ περισσότεροι ἄνθρωποι, πιθανόν νά ἔχετε μεγαλύτερη προτίμηση σέ κάποιο ἐνδιαφέρον ἢ δουλειά. Αὐτές εἶναι οἱ δραστηριότητες πού σᾶς ἀρέσουν περισσότερο. Δεῖξετε πόσο σᾶς ἀρέσει τό κάθε ἐνδιαφέρον ἐργασίας στόν παρακάτω πλῆνα, βάζοντας ἕνα σημάδι ☒ σέ ἕνα ἀπό τά τετραγώνια.

Τό ἐνδιαφέρον μου :	Πολύ Μεγάλο	Μεγάλο	Πάνω ἀπό Μέτριο	Μέτριο	Κάτω ἀπό Μέτριο	Χαμηλό	Πολύ Χαμηλό
ΥΠΑΙΘΡΙΟ	☐	☐	☐	☐	☐	☐	☐
ΜΗΧΑΝΙΚΟ	☐	☐	☐	☐	☐	☐	☐
ΥΠΟΛΟΓΙΣΤΙΚΟ	☐	☐	☐	☐	☐	☐	☐
ΕΠΙΣΤΗΜΟΝΙΚΟ	☐	☐	☐	☐	☐	☐	☐
ΠΕΙΣΤΙΚΟ	☐	☐	☐	☐	☐	☐	☐
ΚΑΛΛΙΤΕΧΝΙΚΟ	☐	☐	☐	☐	☐	☐	☐
ΛΟΓΟΤΕΧΝΙΚΟ	☐	☐	☐	☐	☐	☐	☐
ΕΥΧΕΙΟ	☐	☐	☐	☐	☐	☐	☐
ΚΟΙΝΩΝΙΚΗΣ ΥΠΗΡΕΣΙΑΣ	☐	☐	☐	☐	☐	☐	☐
ΥΠΑΛΛΗΛΙΚΟ	☐	☐	☐	☐	☐	☐	☐

"Όνομα Ἡλικία Φύλο ☐ Ἄνδρας ☐ Γυναίκα
 "Επάγγελμα Ἡμερομηνία .../.../.....

KUDER INTEREST SURVEY

-63-

(Italian)

INDAGINE KUDER SU AREE D'INTERESSE

Qui appresso troverete le descrizioni di aree d'interesse che vi daranno idee riguardo a preferenze o antipatie per certi tipi di lavoro. Leggete le brevi descrizioni di ogni categoria d'interesse e decidete se tali asserzioni siano applicabili a voi. I tipi di lavoro citati in ogni categoria sono soltanto esempi. Oltre a questi ve ne sono molti altri. Inoltre, potrete scoprire che molte materie di studio o attività ricreative collimino con le vostre aree di particolare interesse.

Cercate di stabilire se avete un interesse in ognuna delle attività; quindi fate un segno

☒ nei quadratini contrassegnati con SI o NO. Servitevi del punto interrogativo soltanto se non riuscite a decidere.

=====

Parte A: Lista di controllo

SI NO ?

Interesse per ATTIVITA' ALL'APERTO significa che preferite un tipo di lavoro che vi tenga all'aperto per la maggior parte del tempo e normalmente abbia a che vedere con animali e cose che crescano. Guardaboschi, naturalista e contadino sono occupazioni con alto quoziente d'interesse per l'aria aperta.

☐	☐	☐
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Interesse per la MECCANICA significa che vi piace lavorare con macchinari e attrezzi. Tipi di lavoro in questo campo includono: meccanici di automobili, orologiai, operatori di trapanatrice, e ingegneri.

☐	☐	☐
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Interesse nella CONPUTAZIONE significa che vi piace lavorare con i numeri. Un alto punteggio in quest'area indica che vi potrebbero piacere lavori come contabile, ragioniere o cassiere di banca.

☐	☐	☐
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Interesse per la SCIENZA significa che vi piace scoprire fatti nuovi e risolvere problemi. Di solito dottori, farmacisti, infermieri, ingegneri, aggiustatori di radio, aviatori e distologi hanno un grande interesse per la scienza.

☐	☐	☐
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Interesse di carattere PERSUASIVO significa che vi piace incontrarvi e trattare con la gente e promuovere progetti o articoli da vendere. La maggior parte di attori, uomini politici, annunciatori radio, ministri di culto, venditori e commessi di negozio posseggono un alto interesse di carattere persuasivo.

☐	☐	☐
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Interesse ARTISTICO significa che vi piace fare un lavoro di carattere creativo con le vostre mani. Si tratta normalmente di lavori che attirano l'occhio attraverso attraenti disegni, colori e materiali. Pittori, scultori, architetti, costumisti, parrucchieri e arredatori tutti fanno lavori di carattere "artistico".

☐	☐	☐
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Interesse LETTERARIO indica che vi piace leggere e scrivere. Lavori con carattere letterario includono: romanziere, storico, insegnante, attore, cronista, editore, critico drammatico e critico letterario.

☐	☐	☐
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Interesse MUSICALE indica che vi piace andare a concerti, suonare strumenti, cantare o leggere opere trattanti di musica o musicisti.

☐	☐	☐
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Interesse per SERVIZI SOCIALI denota una predilezione per l'aiutare il prossimo. Infermieri, giovani capi esploratori (maschi e femmine), consiglieri professionali, assistenti sociali e personale ospedaliero si occupano per la maggior parte del tempo d'aiutare altra gente.

☐	☐	☐
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Interesse IMPIEGATIZIO significa che avere una predilezione per un lavoro d'ufficio che richieda precisione ed accuratezza. In questa categoria vi sono lavori come contabile, ragioniere, o studioso di statistica e capotraffico.

☐	☐	☐
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Parte B: Profilo d'interessi

Come la maggior parte della gente avrete un interesse maggiore in certi campi o lavori. Queste sono le attività che vi piacciono di più. Accanto ad ognuno dei campi d'interesse lavorativo qui appresso vi sono dei quadratini. Indicate il vostro grado d'interesse contrassegnando uno dei quadratini.

I miei interessi	Molto Alto	Alto	Sopra della Media	Medio	Sotto la Media	Basso	Molto Basso
ATTIVITÀ ALL'APERTO	☐	☐	☐	☐	☐	☐	☐
MECCANICA	☐	☐	☐	☐	☐	☐	☐
COMPTAZIONE	☐	☐	☐	☐	☐	☐	☐
SCIENTIFICO	☐	☐	☐	☐	☐	☐	☐
PERSUASIVO	☐	☐	☐	☐	☐	☐	☐
ARTISTICO	☐	☐	☐	☐	☐	☐	☐
LETTERARIO	☐	☐	☐	☐	☐	☐	☐
MEDICALE	☐	☐	☐	☐	☐	☐	☐
SERVIZI SOCIALI	☐	☐	☐	☐	☐	☐	☐
IMPIEGATIZIO	☐	☐	☐	☐	☐	☐	☐

Nome.....Eta.....Sesso ☐ Maschio ☐ Femmina

Occupazione....Data odierna...../...../.....

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Science Research Associates.

Kuder Interest Survey

(Serbo-Croatian)

KUDER ANKET O INTERESOVANJIMA

Niže navedeni su neki opisi interesovanja koji vam daju ideje u odnosu na ono što volite ili što ne volite u raznim vrstama posla. Pročitajte kratak opis o svakoj kategoriji interesovanja i odlučite da li se taj opis odnosi na vas. Nazvana zanimanja u svakoj kategoriji su samo primeri. Ima mnogo drugih. Možda ćete naći da mnogi školski predmeti ili delatnosti/u slobodnom vremenu odgovaraju području vašeg velikog interesovanja.

Pokušajte da odlučite da li imate interesovanja u svakoj delatnosti, tada stavite znak ☒ u kvadrat označen DA ili NE. Znak pitanja stavite samo onda ako ne možete da se odlučite.

Deo A: Pregledna lista

DA NE ?

Interesovanje VANI znači da više volite rad koji vas najvećim delom vremena zadržava vani i obično je sa životinjama i nečim što raste iz zemlje. Šumari, prirodnjaci i zemljoradnici se nalaze među onima koji imaju velika interesovanja vani.

☐ ☐ ☐

Interesovanje za MEHANIKU znači da vi volite da radite sa mašinama i alatima. U poslove u ovom području uključeni su ljudi koji vrše popravke automobila, časovničari, operateri bušilica i inženjeri.

☐ ☐ ☐

Interesovanje za RAČUNANJE znači da vi volite da radite sa brojevima. Visoki bodovi u ovom području pokazuju da vi možda volite posao kao knjigovodja, računovodja, ili blagajnik u banci.

☐ ☐ ☐

Interesovanje za NAUKE znači da vi volite da pronalazite nove stvari i da rešavate probleme. Doktori, apotekari, bolničarke, inženjeri, popravljajući radio aparata, avijatičari i dijetetičari obično imaju veliko naučno interesovanje.

☐ ☐ ☐

Interesovanje u UVERAVANJU znači da vi volite da se srećete sa ljudima i da zastupate projekte i stvari za prodaju.

većina glumaca, političara, objavljivača na radiju, sveštenika, prodavača i trgovачkih pomoćnika imaju veliko interesovanje u uverenju.

DA	NE	?
☐	☐	☐

Interesovanje za UMETNOST znači da volite stvaralački rad svojim rukama. To je obično rad koji je "privlačan za oko" u koji su uključeni privlačni nacrti, boja i materijali. Stampari, vajari arhitekte, dizajneri odeće, frizeri (frizerke) i dekorateri, svi oni rade na umetničkom poslu.

☐	☐	☐
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Interesovanje za KNJIŽEVNOST pokazuje da volite da čitate i pišete. U književne poslove uključeni su novelisti, istoričari, učitelji, glumci, dopisnici urednik, dramski kritičar i pisac revije knjiga.

☐	☐	☐
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Interesovanje za MUZIKU pokazuje da volite da idete na koncerte, sviranje instrumenata, pevanje ili čitanje o muzici i muzičarima.

☐	☐	☐
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Interesovanje za SOCIJALNU POMOĆ pokazuje da dajete prvenstvo pomaganju ljudima. Bolničarke, vodje skauta ili skautkinja, savetnici za pozive, staratelji, sveštenici, radnici sa personalom, socijalni radnici, i bolničko osoblje upotrebe mnogo svoga vremena u pomaganju drugim ljudima.

☐	☐	☐
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Interesovanje za ČINOVNIŠTVO znači da volite posao u kancelariji koji zahteva preciznost i tačnost. Poslovi kao knjigovodje, računovodje, statističari i direktori prometa spadaju u ovu oblast.

☐	☐	☐
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Deo B: Prosek interesovanja

Kao većina ljudi i vi verovatno imate veće interesovanje u nekim oblastima rada. To su delatnosti koje najviše volite. Pored svakog niže navedenog interesovanja u radu označite koliko ga volite, time što ćete staviti znak ☒ u jedan od kvadrata.

Moja interesovanja:	Vrlo veliko	Veliko	Iznad proseka	Prosečno	Ispod proseka	Malo	Vrlo malo
Vani	☐	☐	☐	☐	☐	☐	☐
Za mehaniku	☐	☐	☐	☐	☐	☐	☐
Za računanje	☐	☐	☐	☐	☐	☐	☐
Za nauke	☐	☐	☐	☐	☐	☐	☐
Za uveravanje	☐	☐	☐	☐	☐	☐	☐
Za umetnost	☐	☐	☐	☐	☐	☐	☐
Za književnost	☐	☐	☐	☐	☐	☐	☐
Za muziku	☐	☐	☐	☐	☐	☐	☐
Za Soc. Pomoc	☐	☐	☐	☐	☐	☐	☐
Za činovništvo	☐	☐	☐	☐	☐	☐	☐

Ime i
prezime Star.....Spol Muško ☐ Žensko ☐
godina

Zanimanje Današnji datum / /

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KUDER INTEREST SURVEY

(Spanish)

ENCUESTA KUDER DE INTERES

Más abajo se detallan algunas descripciones de intereses que le darán ideas concernientes a lo que le gusta y no le gusta para diferentes tipos de trabajo. Lea la descripción corta de cada categoría de interés y decida si estas son aplicables a Ud. Las ocupaciones que se mencionan en cada categoría sirven solamente de ejemplo. Hay muchas otras. Ud. también podrá encontrar que muchos ramos del colegio o actividades de tiempo libre encajan en sus áreas de alto interés.

Trate de decidir si usted tiene interés en cada actividad, luego coloque un tique ☒ en los cuadrados marcados SI o NO. Use el signo de interrogación solamente si no puede decidirse.

Parte A: Lista para chequear

SI NO ?

AL AIRE LIBRE este interés significa que Ud. prefiere trabajo que lo mantenga al aire libre la mayor parte de su tiempo y generalmente trata con animales, plantas y árboles. Guarda bosques, ecólogos y agricultores se encuentran entre aquellos con alto interés en el aire libre.

☐ ☐ ☐

MECANICO este interés significa que a Ud. le gusta trabajar con máquinas y herramientas. Los trabajos en esta área incluyen reparadores de automóviles, operadores de prensas taladradoras, e ingenieros.

☐ ☐ ☐

COMPUTACION este interés significa que a Ud. le gusta trabajar con números. Un puntaje alto en esta área sugiere que a Ud. le pueden gustar trabajos tales como tenedor de libros, contador, o cajero de banco.

☐ ☐ ☐

CIENTIFICO este interés significa que a Ud. le gusta descubrir cosas nuevas y solucionar problemas. Los doctores, químicos, enfermeras, ingenieros, reparadores de radio, aviadores y dietistas generalmente tienen altos intereses científicos.

☐ ☐ ☐

PERSUASIVO este interés significa que a Ud. le gusta conocer y tratar con gente a fin de promover proyectos o vender cosas. La mayoría de los actores, políticos, locutores de radio, ministros, vendedores y ayudantes de tiendas tienen altos intereses persuasivos.

☐ ☐ ☐

ARTISTICO este interés significa que a Ud. le gusta hacer trabajo creativo con sus manos. Generalmente es trabajo que "agrada a la vista" involucrando diseño color y materiales atractivos. Los pintores, escultores, arquitectos, diseñadores de ropa, peluqueros y decoradores de interiores hacen todos trabajo "artístico".

☐ ☐ ☐

LITERARIO este interés demuestra que a Ud. le gusta leer y escribir. Los trabajos literarios incluyen, novelista, historiador, profesor, actor, reportero de noticias, editor, crítico de dramas, y crítico de libros.

☐ ☐ ☐

Parte A: Liste para chequear (cont.)

SI NO ?

MUSICAL este interés significa que a Ud. le gusta ir a conciertos, tocar instrumentos musicales, cantar, o leer sobre música y sobre músicos.

☐ ☐ ☐

SERVICIOS SOCIALES este interés indica una preferencia por ayudar a los demás. Las enfermeras las leaders de boy o girl scouts, consejeros vocacionales, profesores, ministros, trabajadores en secciones del personal, trabajadores sociales y asistentes de hospitales ocupan una gran parte de su tiempo en ayudar a otras personas.

☐ ☐ ☐

OFICINISTAS este interés significa que a Ud. le gusta el trabajo de oficina que requiere precisión y exactitud. Trabajos tales como tenedor de libros, contador, empleado de archivos, empleado de ventas, secretaria, perito en estadística, y administrador de tráfico entran en esta área

☐ ☐ ☐

Parte B: Perfil de Interés

Como la mayoría de las personas, Ud. probablemente tiene intereses más altos en algunas áreas de interés o trabajo. Estas son las actividades que más le gustan. Junto a cada uno de los intereses de trabajo indicados más abajo indique cuanto le gusta colocando un tique en uno de los cuadrados.

MI interés es:	Muy Alto	Alto	Más que Regular	Regular	Menos que Regular	Bajo	Muy Bajo
Aire Libre	☐	☐	☐	☐	☐	☐	☐
Mecánico	☐	☐	☐	☐	☐	☐	☐
Computación	☐	☐	☐	☐	☐	☐	☐
Científico	☐	☐	☐	☐	☐	☐	☐
Persuasivo	☐	☐	☐	☐	☐	☐	☐
Artístico	☐	☐	☐	☐	☐	☐	☐
Literario	☐	☐	☐	☐	☐	☐	☐
Musical	☐	☐	☐	☐	☐	☐	☐
Servicio Social	☐	☐	☐	☐	☐	☐	☐
Oficinistas	☐	☐	☐	☐	☐	☐	☐

Nombre Edad... Sexo ☐ Masculino

☐ Femenino

Ocupación Fecha de hoy ... / ... /

KUDER INTEREST SURVEY

KUDER İLGİ ANKETİ

(Turkish)

Aşağıda değişik türde işlerden hoşlanıp hoşlanmadığınızı gösterecek, ilgi duyulan bir takım şeylerin bazı tanımlarını bulacaksınız. Her ilgi grubundaki kısa açıklamayı okuyun ve yazılanların size uyup uymadığına karar verin. Her grupta sıralanan meslekler sadece örnek olarak verilmiştir. Daha birçokları vardır. Ayrıca okuldaki bazı derslerin ya da boş vakitlerinizde yaptığınız bir takım şeylerin çok ilgi duyduğunuz konular arasında bulunduğunu göreceksiniz.

Her faaliyet alanı için ilgi duyup duymadığınıza karar verin ve EVET ve HAYIR yazılı karelere işaret koyun. Eğer karar veremiyorsanız soru işaretinin altını işaretleyin.

Bölüm A: İşaret listesi

	EVET	HAYIR	?
AKIÇ HAVA ile ilgili çoğu zaman dışarda kalmayı sevelen ve çoğunlukla hayvanlarla ya da birşeyler yetiştirmekle ilgili işleri tercih ediyorsunuz demektir. Akıç havaya çok ilgi gösterenler arasında orman bekçileri, tabiat bilginleri ve çiftçiler vardır.	☐	☐	☐
MEKANİK ilgili makineler ve aletlerle çalışmaktan hoşlanıyorsunuz demektir. Bu alandaki işler araba tamirciliği, saatçilik, matkap operatörlüğü ve mühendisliktir.	☐	☐	☐
HESAP ile ilgili rakamlarla çalışmayı seviyorsunuz demektir. Buna fazla ilginiz varsa defter tutma, muhasebecilik ya da banka veznedarlığı gibi işlerden hoşlanabileceğinizi gösterir.	☐	☐	☐
BİLİMSSEL ilgili yeni şeyler keşfetmeyi ve problem çözmeyi seviyorsunuz demektir. Doktorlar, kimyagerler, hemşireler, mühendisler, radyo tamircileri, havacılar ve besleme uzmanlarında çoğunlukla bilimsel ilgi yüksektir.	☐	☐	☐
İKNA ile ilgili insanlarla tanışıp uğraşmaktan ve bir takım fikirleri ya da şeyleri sürmekten hoşlandığınızı gösterir. Çoğu aktör, politikacı, radyo spikeri, hocası, satıcı ve teşahhatarların ikna etmeye gösterdikleri ilgi yüksektir.	☐	☐	☐
SANATSAL ilgili ellerinizle yaratıcı işler yapmaktan hoşlandığınızı gösterir. Bu tür işler çoğunlukla göze çekici gelen düzen, renk ve malzemelerle yapılan işlerdir. Ressam, heykeltıraş, mimar, modacı, kuaför ve dekoratörler "sanatsal" işler yapan kişilerdir.	☐	☐	☐
EDEBİ ilgili okuyup yazmaktan hoşlandığınızı gösterir. Edebi işler arasında romancılık, tarihçilik, öğretmenlik, aktörlük, muhabirlik, editörlük, tiyatro eleştirmenliği ve kitap eleştirmenliği vardır.	☐	☐	☐
MÜZİK ile ilgili konserlere gitmek, enstrüman çalmak, şarkı söylemek ya da müzik veya müzisyenler hakkında birşeyler okumaktan hoşlandığınızı gösterir.	☐	☐	☐
TOPLUMSAL HİZMET ile ilgili insanlara yardımcı olmak et-tilenizi gösterir. Hemşireler, izci başkanları, meslek danışmanları, öğretmenler, din görevlileri, personel görevlileri, sosyal hizmet görevlileri ve hastabakıcılar vakitlerinin çoğunu başkalarına yardım ederek geçirirler.	☐	☐	☐
MEMURLUK ilginizi hassas ve dakik çalışma gerektiren ofis işinden hoşlanıyorsunuz demektir. Defter tutma, muhasebecilik, dosya memurluğu, satış memurluğu, sekreterlik, istatistikçilik ve trafik memurluğu bu ilgi alanına girer.	☐	☐	☐

Bölüm B: İlgili Göstergesi

Çoğu kişi gibi her halde siz de bazı ilgi veya çalışma alanlarından daha fazla hoşlanıyorsanızuzdur. Aşağıdaki çalışmayla ilgili faaliyetlerden herbirinin yanına, ne kadar hoşlandığınızı karelerden birini işaretleyerek belirtin.

İlgilerim	Çok fazla	Çok	Ortanın Üstünde	Orta	Ortanın altında	Az	Çok az
AÇIK HAVA	☐	☐	☐	☐	☐	☐	☐
MEKANİK	☐	☐	☐	☐	☐	☐	☐
HESAP	☐	☐	☐	☐	☐	☐	☐
BİLİMSSEL	☐	☐	☐	☐	☐	☐	☐
İKNA	☐	☐	☐	☐	☐	☐	☐
SANATSAL	☐	☐	☐	☐	☐	☐	☐
EDEBİ	☐	☐	☐	☐	☐	☐	☐
MUZİK	☐	☐	☐	☐	☐	☐	☐
TOPLUMSAL HİZMET	☐	☐	☐	☐	☐	☐	☐
MEMURLUK	☐	☐	☐	☐	☐	☐	☐

İsim.....Yaş..... ☐ Erkek ☐ Kadın

Yaptığınız iş.....Bugünkü tarih...../...../.....

VOCATIONAL INTEREST CATEGORIES*

OUTDOOR interest means that you prefer work that keeps you outside most of the time and usually deals with animals and growing things. Forest rangers, naturalists, and farmers are among those high in outdoor interests.

MECHANICAL interest means you like to work with machines and tools. Jobs in this area include automobile repairsmen, watchmakers, drill press operators, and engineers.

COMPUTATIONAL interest means you like to work with numbers. A high score in this area suggests that you might like such jobs as bookkeeper, accountant, or bank teller.

SCIENTIFIC interest means that you like to discover new facts and solve problems. Doctors, chemists, nurses, engineers, radio repairsmen, aviators, and dieticians usually have high scientific interests.

PERSUASIVE interest means that you like to meet and deal with people and to promote projects or things to sell. Most actors, politicians, radio announcers, ministers, salesmen, and shop assistants have high persuasive interests.

ARTISTIC interest means you like to do creative work with your hands. It is usually work that has "eye" appeal involving attractive design, colour and materials. Painters, sculptors, architects, dress designers, hairdressers, and interior decorators all do "artistic" work.

LITERARY interest shows that you like to read and write. Literary jobs include novelist, historian, teacher, actor, news reporter, editor, drama critic, and book reviewer.

MUSICAL interest shows you like going to concerts, playing instruments, singing, or reading about music and musicians.

SOCIAL SERVICES interest indicates a preference for helping people. Nurses, boy or girl scout leaders, vocational counsellors, tutors, ministers, personnel workers, social workers, and hospital attendants spend much of their time helping other people.

CLERICAL interest means you like office work that requires precision and accuracy. Jobs such as bookkeeper, accountant, file clerk, sales clerk, secretary, statistician, and traffic manager fall in this area.

Kuder Interest Profile

SUMMARY OF YOUR VOCATIONAL INTERESTS

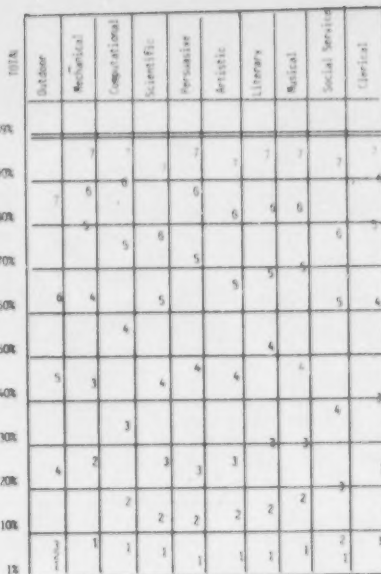
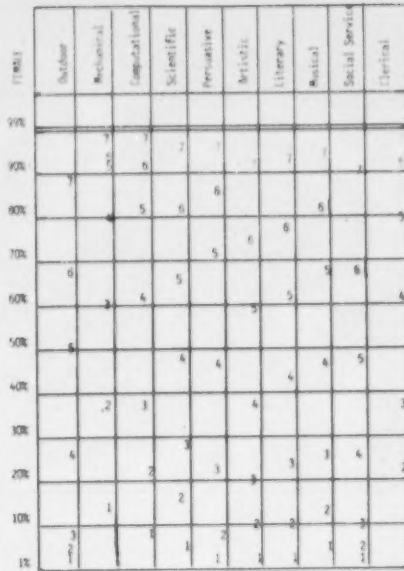
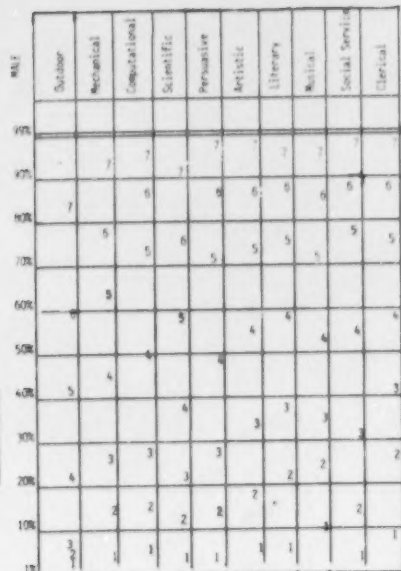
NAME _____

COUNSELLOR _____

DATE _____

*Reproduced by J.A. Athanasou from Kuder Preference Record by permission of Science Research Associates

PERCENTILES



This profile shows your interest in ten important work activities listed across the top of the chart. Scores from one (1) to seven (7) show how high your interest is:-

- 7 = Very High
- 6 = High
- 5 = Above Average
- 4 = Average
- 3 = Below Average
- 2 = Low
- 1 = Very Low

High scores show the type of activities you like best. More than one high score indicates a combination of interests. Low scores should also be considered because they indicate activities you probably do not enjoy.

Percentiles on the graph will also help you see how your interests compare with those of other people. Percentiles give you some idea of where you rank - if say, your percentile is 80%, your interest is greater than 80% of others; or if your percentile is 50%, you are right in the middle while you are at the 25% level, this means about 75% have a greater interest than you. Finally, remember that your interests are only a small part of helping you decide about occupations. Abilities and values will also determine what you do well.

of five educational levels can be specified (degree, diploma, trade, certificate, other). Occupations are selected for examination in terms of the above thirteen work values. Ratings of desired work values are compared to values perceived in five nominated occupations by the use of Osgood's D². Finally, a pair-comparison technique is used by the subject as a basis for selection of five occupations, and feedback on the calculated consistency of choices is provided.

Full instructions are provided for users and a general set of ten evaluation questions provided prior to completion. Subjects' demographic data, interest types of work values occupational choices and evaluation responses are retained on an auxiliary file.

Preliminary results from a field trial of high school students (N=32), indicated that career guidance was more interesting with the use of computers. Comparison with clients (N=27) from traditional guidance interviews, showed that a significantly higher proportion of computer-assisted clients were helped to sort through information ($z=2.0$ $p < 0.05$). Responses were generally independent of job knowledge, previous vocational exploration, Eysenck personality factors extraversion, neuroticism, toughmindedness, general ability or level of vocational decidedness.

Hardware

The program is written in Fortran for a Burroughs B7700. Versions of the program are also running on a Control Data system and VAX systems. References to the special features applicable to the Burroughs system and which are not essential are indicated. With this provision the program should be portable to any major installation.

Career Exploration Guide - A career education exercise

The Career Exploration Guide was developed for use as a career education exercise for high school students. It has two general aims (a) to generate awareness and understanding of career planning, and (b) to provide support for self-exploration and broadening of career horizons.

The program is a complete unit in which participants work through exercises. It is designed for year 9 students of average or higher ability. The written exercises are helpful for organizing ideas and information. They provide a record which can be kept and referred to later.

The guide was published in the Australian School Leavers Yearbook by Seligman (1982) and is reproduced below.

What Would I Like To Do?

CAREERS in Interest Categories

This job guide presents CAREER HEADINGS contained in the KUDOR INTEREST SURVEY. It is arranged in a system of TEN INTEREST CATEGORIES. Each category tells you the OCCUPATIONS that have the interest and activities you like. The interest categories have been further subdivided into five groups which tell you the level of training, education, or experience that each level requires. Think carefully about whether each grouping appeals to you or not.

Start on the "Me" (left side) side filling out

Y for Yes.

N for No.

? for Undecided.

ME	ARTISTIC interest means you like to design and create artistic objects, appreciate beautiful things around you, practise art, architecture, decorating or display work. Artists, actors, commercial artists, draftsmen, photographers, occupational therapists, art teachers, toolmakers, signwriters and painters all do "artistic" work.
	LITERARY interest means you like books, reading, writing, dealing with and appreciating words or /and ideas. Literary jobs include writers, editors, reporters (journalists), clergy, lawyers, judges, musicians, librarians, advertising copy-writers, high school teachers of English and interpreters.
	MUSICAL interest survey means you like composing, arranging, conducting, singing or playing musical instruments. Actors, authors, musicians, music teachers, radio and television work involve "musical" interests.
	SOCIAL SERVICE means you are concerned about community and individual welfare, understanding people and helping them overcome their personal and medical problems, like psychologists, religious workers, rehabilitation counsellors, social and welfare workers, nurses, personnel clerks. It can also include providing instruction or other services to schools or colleges, like teachers, counsellors or P.E. instructors.
	CLERICAL interest means you like office work which involves organising and accurate recording of information, and, at higher levels, planning and controlling business activities. Jobs such as secretary, accountant, bookkeepers, general office clerks, purchasing agents, executives, administrators, printers, commerce teachers, fall in this area.
	OUTDOOR interest means that you like to work and move about outside, like civil engineers and carpenters. It also involves caring for animals and growing things — farmers, foresters, botanists, landscape gardeners, zoologists and veterinary surgeons are among those high in outdoor interests.
	MECHANICAL interest means you like to work mainly with tools and technical equipment. It involves making and fixing, operating and adjusting machines. Jobs in this area include pilots, mechanics, building trades, cooks and bakers, laboratory attendants, occupational therapists, trade teachers, and engineers.
	COMPUTATIONAL interest means you like to work with numbers, do calculations and use mathematics as in finance, data processing, statistics and engineering. A high score in this area means that you might like such jobs as computer programmer, accountant, office manager, bookkeeper or statistical clerk.
	SCIENTIFIC INTEREST means you like to discover new facts, observe, investigate and experiment. Doctors, nurses, pharmacists, dietitians, dental hygienists, electronic engineers, meteorologists, chemists, laboratory technicians have high scientific interests.
	PERSUASIVE interest means you like meeting people, talking, discussing and influencing others like reporters, personnel managers, telephone operators, and secretaries. It also involves business relations with people, as in advertising, buyers and executives, sales managers, sales engineers, retail managers and sales persons.

These interest categories have been subdivided into five groups, which specify the level of training, education, or experience that each requires.

**DEGREE — DIPLOMA/ASSOCIATE DIPLOMA
CERTIFICATE — TRADE**

OTHER (Occupations which have other education requirements and those where experience may be important).

This list is sufficiently broad to apply to all States — but be warned, educational requirements do vary!

OUTDOORS

DEGREE

Agriculture
Aeronautical
Engineering
Anthropology
Australian
Telecommunications
& Postal Commissions
Building
Civil Engineering
Defence Forces
Earth Sciences
Engineering
Forestry
Geography
Horticulture
Journalism
Management of Natural
Resources
Marine Sciences
Meteorology
National Parks &
Wildlife Service
Physics
Pilot
Public Service Careers
Public Transport
Commission

DIPLOMA/ASSOCIATE DIPLOMA

Agriculture
Australian
Telecommunications
& Postal Commissions
Customs Work
Dairy Technology
Health Surveying
Horticulture
Journalism
Public Service Careers
Recreation Officer
Saleswork
Soil Conservation Service
Teaching
Valuation
Winemaking & Viticulture



CERTIFICATE

Agriculture
Ambulance Work
Animal Care
Australian
Telecommunications
& Postal Commissions
Building
Civil Aviation
Civil Engineering
Customs Work
Engineering
Technician
Health Surveying
Horticulture
Landscape Gardening
Marine Engineering
Photography
Public Service
Careers
Public Transport
Commission
Radio Officer
(Operator)
Real Estate and
Business Agency
Stock & Station
Agency

TRADE

Aircraft Trades
Australian
Telecommunications
& Postal Commissions
Boatbuilding
Boilermaking
Bricklaying
Building Trades
Carpentry & Joinery
Dairy Produce & By-
Products Industry
Gardening
Glass Industry
Greenkeeping
Merchant Navy
Painting & Decorating
Plastering
Plumbing
Public Service
Careers
Public Transport
Roof Tiling & Slating
Shipbuilding
Signwriting
Stonemasonry
Wall & Floor Tiling
Welding

OTHER

Agriculture
Ambulance Work
Animal Care
Auctioneering
Australian
Telecommunications
& Postal Commissions
Civil Aviation
Dairy Products & By-
Products Industry
Defence Forces
Fire Brigade
Floristry
Forestry
Glass Industry
Journalism
Lineman
Merchant Navy
Meteorology
National Parks &
Wildlife Service
Police Force
Public Service Careers
Public Transport
Commission
Radio Officer (Operator)
Saleswork

Ranger/Naturalist
Science
Soil Conservation
Service
Surveying
Teaching
Winemaking &
Viticulture

Surveying
Valuation

Timber Industry

Shearing
Ship Stewards &
Stewardesses
Welding
Winemaking &
Viticulture
Woolclassing
Timber Industry

MECHANICAL

DEGREE

Acoustics
Aeronautical
Engineering
Agriculture
Architecture
Australian
Telecommunications
& Postal Commissions
Building
Chemical Engineering
Civil Engineering
Defence Forces
Electrical
Engineering
Engineering
Film
Food Technology
Forestry
Fuel Engineering
Industrial
Chemistry
Industrial Design
Industrial
Engineering
Interior Design &
Decoration
Local Government
Mechanical
Engineering
Medical Technology
Metallurgy

DIPLOMA/ASSOCIATE DIPLOMA

Cartography
Clothing Technologist
Dairy Technology
Drafting
Drama
Food Technology
Laboratory Technician
Medical Technology
Metallurgy
Music
Paramedicine-Technician
Public Service Careers
Quantity Surveying
Saleswork
Soil Conservation Service
Teaching
Technician/Technical
Officer



CERTIFICATE

Australian
Telecommunications
& Postal Commissions
Building
Cartography
Chemical Technician
Civil Aviation
Civil Engineering
Clothing
Technologist
Drafting
Electrical
Engineering
Electronics
Engineering Technician
Film
Food Technology
Interior Design &
Decoration
Jewellery
Laboratory Assistant
Laboratory
Technician
Local Government
Marine Engineering
Mechanical Engineering
Medical Technology
Metallurgy
Music
Naval Architecture
Nuclear Medicine

TRADE

Air Conditioning
Aircraft Trades
Apparel Plant Mechanics
Australian
Telecommunications
& Postal Commissions
Baking
Blacksmithing
Boat Building
Boilermaking
Bread Manufacture
Bricklaying
Building Trades
Business Machine
Servicing
Butchery
Cabinet Making
Canvas & Rope Goods
Manufacturing
Carpentry and Joinery
Ceramic Engineering
Consumer Electronics
Tradesman
Cooking
Coppersmithing
Dairy Produce & By-
Products Industry
Defence Forces
Dental Technician
Electrical Fitter
(Automotive)

OTHER

Automotive Replacement
Part Sales
By-Products Processing
Carpet Laying
Defence Forces
Domestic Work
Dry Cleaning &
Laundry Work
Electroplating
Fashion
Film
Fire Brigade
Footwear Manufacturing
Trades & Retail
Service
Forestry
Lineman
Machine Operator
Meat Industry
Meat Packing
Merchant Navy
Music
Optical Dispensing
Packaging
Panel Operating
Pilot
Printing and Associated
Trades
Radio Broadcasting
Saleswork
Shop Assistant

Mining Engineering
Music
Naval
Architecture
Occupational
Therapy
Optometry
Physics
Pilot
Production
Engineering
Public Service
Careers
Quantity Surveying
Soil Conservation
Service
Surveying
Teaching
Television Broadcasting
Careers
Textile Industry
Town & Country
Planning
Public Transport
Commission

Packaging
Panel Operating
Paramedicine-
Technician
Photography
Plastics Industry
Production
Engineering
Public Service
Careers
Public Transport
Commission
Radio Broadcasting
Radio Officer
Surveying
Technician Technical
Officer
Television Broadcasting
Careers
Textile Industry

Electrical Fitter
Electrical Fitter/
Mechanic
Electroplating
Fitting and Machining
and Toolmaking
Footwear Manufacturing
Trades and Retail
Service
Forging
Founding (Moulding)
French Polishing
Gardening
Glass Industry
Greenkeeping
Jewellery
Knitting Machine
Mechanics
Local Government
Meat Industry
Millinery
Motor Cycle Mechanics
Motor Mechanics
Moulding
Optical Mechanics
Orthopaedic Technician
Painting & Decorating
Panelbeating
Pastrycooking
Patternmaking
Plant Mechanics
Plastering
Plastics Industry
Plumbing
Printing & Associated
Trades
Public Service Careers
Public Transport
Commission
Radio Tradesman
Roof Tiling & Slating
Saw Doctoring
Shipbuilding
Shoe Repairing
Signwriting
Small Goods Manufacturing
Spinning
Stonemasonry
Tailoring
Telegraph Mechanic

Slaughtering — Meat
Industry
Small Goods Manufacturing
Timber Industry
Tracing
Waiting





Television Broadcasting
Careers
Timber Industry
Toolmaking
Upholstery
Vehicle Building
Vehicle Painting
Vehicle Trimming
Waiting
Wall & Floor Tiling
Watchmaking
Weaving Mechanic
Wood Machining
Wood Turning

COMPUTATIONAL

DEGREE

Accountancy
Actuarial Work
Administration
Aeronautical Engineering
Agriculture
Astronomy
Atomic Energy
Australian Foreign
Service
Banking
Biochemistry
Building
Ceramic Engineering
Chemical Engineering
Chemist
Civil Engineering
Company Secretary
Data Processing
Defence Forces
Economics/Commerce/
Business
Electrical Engineering
Engineering
Food Technology

DIPLOMA/ASSOCIATE DIPLOMA

Accountancy
Administration
Agriculture
Banking
Cartography
Company Secretary
Customs Work
Dairy Technology
Data Processing
Drafting
Economics/Commerce/
Business
Food Technology
Hotel Management
Insurance
Public Service Careers
Quantity Surveying
Soil Conservation
Stock Exchange
Teaching
Valuation



CERTIFICATE

Accountancy
Agriculture
Banking
Building
Cartography
Catering Officer
Chemical Technician
Civil Aviation
Company Secretary
Customs Work
Drafting
Economics/Commerce/
Business
Electronics
Engineering
Food Technology
General Office Work
Hospital Catering
Officer
Hotel Management
Insurance
Marine Engineering
Meat Industry
Meat Inspection

TRADE

Building Trades
Patternmaking
Scientific Instrument
Making

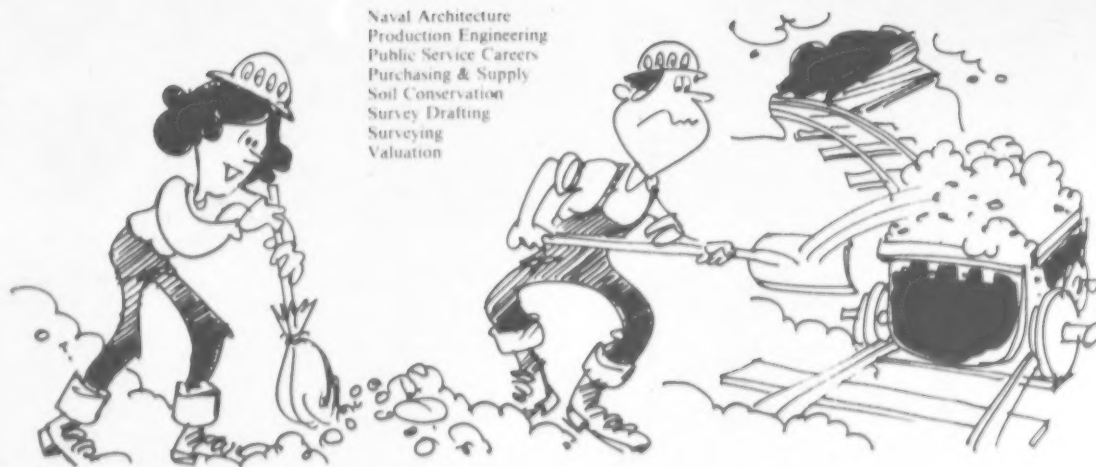


OTHER

Accountancy
Actuarial Work
Banking
Civil Aviation
Company Secretary
Corporate Trustees
Data Processing
Defence Forces
Fire Brigade
General Office Work
Machine Operator
Meat Industry
Meat Inspection
Pilot
Public Service Careers
Soil Conservation
Stock Exchange
Tracing
Woolbuying &
Woolbroking

Fuel Engineering
 Geography
 Industrial Engineering
 Insurance
 Mechanical Engineering
 Mining Engineering
 Naval Architecture
 Optometry
 Physics
 Pilot
 Production Engineering
 Public Service Careers
 Quantity Surveying
 Science
 Soil Conservation
 Statistician
 Stock Exchange
 Surveying
 Teaching
 Town & Country
 Planning
 Woolbuying &
 Woolbroking

Naval Architecture
 Production Engineering
 Public Service Careers
 Purchasing & Supply
 Soil Conservation
 Survey Drafting
 Surveying
 Valuation



Franklin's

101

SCIENTIFIC

DEGREE

Acoustics
 Aeronautical Engineering
 Agriculture
 Astronomy
 Atomic Energy
 Audiology
 Biochemistry
 Biologist
 Ceramic Engineering
 Chemical Engineering
 Civil Engineering
 Data Processing
 Dentistry
 Dietetics/Nutrition
 Earth Sciences

DIPLOMA/ASSOCIATE

DIPLOMA

Agriculture
 Agriculture
 Chiropody
 Dairy Technology
 Data Processing
 Gemmology
 Health Administration
 Health Surveying
 Home Economics
 Horticulture
 Laboratory Technician
 Librarianship
 Medical Records
 Administration
 Medical Technology

CERTIFICATE

Agriculture
 Ambulance Work
 Animal Care
 Audiometry
 Biological
 Technician
 Chemical Technician
 Civil Aviation
 Civil Engineering
 Consumer Electronics
 Tradesman
 Data Processing
 Drafting
 Electrical Engineering
 Electronics

TRADE

Air Conditioning
 Aircraft Trades
 Blacksmithing
 Dairy Produce & By-
 Products Industry
 Dental Technician
 Electrical Trades
 Electroplating
 Fitting & Machining
 Founding
 Gardening
 Greenkeeping
 Meat Industry
 Motor Cycle Mechanics
 Motor Mechanics

OTHER

Ambulance Work
 Animal Care
 Beauty Care
 Civil Aviation
 Dairy Produce & By-
 Products Industry
 Data Processing
 Dental Chairside
 Assisting
 Dental Therapy
 Diet Aides
 Diet Supervisor
 Diversional Therapy
 Electroplating
 Fire Brigade

93

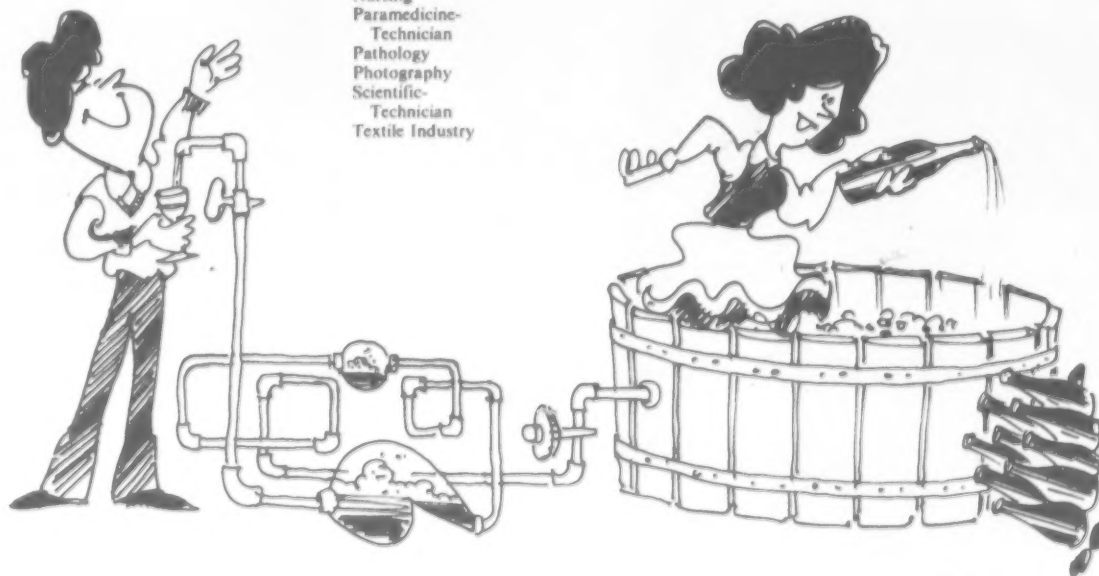
Electrical Engineering
Engineering
Food Technology
Forestry
Fuel Engineering
Geography
Health Administration
Home Economics
Horticulture
Industrial Chemistry
Industrial Design
Industrial Engineering
Languages
Librarianship
Management of Natural Resources
Marine Sciences
Mechanical Engineering
Medical Technology
Medicine
Metallurgy
Meteorology
Microbiology
Midwifery Nursing
Mining Engineering
National Parks & Wildlife Service
Naturalist Ranger
Nursing
Occupational Therapy
Optometry
Pathology
Pharmacy
Physics
Physiology
Physiotherapy
Pilot
Textile Industry
Town & Country Planning
Veterinary Science
Winemaking & Viticulture

Metallurgy
Midwifery Nursing
Nursing
Orthoptics
Paramedicine-Technician
Scientific-Technician
Winemaking & Viticulture

Engineering
Engineering Technician
Food Technology
Health Administration
Health Surveying
Home Economics
Horticulture
Hospital Catering Officer
Laboratory Assistant
Laboratory Technician
Landscape Gardening
Librarianship
Marine Engineering
Meat Industry
Meat Inspection
Mechanical Engineering
Medical Technology
Metallurgy
Midwifery Nursing
Nuclear Medicine
Nursing
Paramedicine-Technician
Pathology
Photography
Scientific-Technician
Textile Industry

Moulding
Optical Mechanics
Orthopaedic Technician
Patternmaking
Plumbing
Toolmaking
Welding

Floristry
Food Technology
Meat Industry
Meat Inspection
Merchant Navy
Meteorology
National Parks & Wildlife Service
Naturalist Ranger
Nursing Aide/Enrolled Nurse
Optical Dispensing
Pilot
Welding
Winemaking & Viticulture



PERSUASIVE

DEGREE

Administration
Advertising
Banking
Defence Forces
Drama
Film
Home Economics
Health Administration
Industrial Design
Industrial Engineering
Journalism
Kindergarten Teaching
Law
Ministry/Priesthood
Music
Nursing
Occupational Therapy
Optometry
Personnel Administration
& Industrial Relations
Pharmacy
Physiotherapy
Psychiatric Nursing
Psychiatry
Psychology
Public Relations
Public Service Careers
Publishing
Social Welfare Work
Teaching
Television Broadcasting
Careers
Town & Country Planning
Travel & Tourism

DIPLOMA/ASSOCIATE DIPLOMA

Administration
Advertising
Banking
Child Care
Customs Work
Drama
Home Economics
Journalism
Kindergarten Teaching
Music
Nursing
Orthoptics
Personnel Administration
& Industrial Relations
Psychiatric Nursing
Public Service Careers
Publishing
Recreation Officer
Saleswork
Social Welfare Work
Teaching
Travel & Tourism

CERTIFICATE

Advertising
Banking
Catering Officer
Child Care
Civil Aviation
Clerical Work
Customs Work
Demonstrating
Fashion
Film
General Office Work
Home Economics
Health Administration
Hospital Catering
Officer
Hotel Management
Insurance
Music
Nursing
Personnel Administration
& Industrial Relations
Psychiatric Nursing
Public Service Careers
Purchasing & Supply
Real Estate Agency
Retail Management
Saleswork
Social Welfare Work
Stock & Station Agency
Television Broadcasting
Careers

TRADE

Business Machine
Servicing
Butchery
Consumer Electronics
Tradesman
Hairdressing
Shoe Repairing
Tailoring
Television Broadcasting
Careers
Waiting

OTHER

Advertising
Air Hostess & Airline
Stewards
Auctioneering
Automotive Replacement
Parts Sales
Beauty Care
Civil Aviation
Clerical Work
Defence Forces
Diversional Therapy
Drama
Dressmaking
Fashion
Fashion Buying
Fashion Co-ordination
Film
Floristry
General Office Work
Insurance
Law
Make-up Artist
Merchant Navy
Ministry/Priesthood
Modelling
Music
Nursing
Nursing Aide/Enrolled
Nurse
Optical Dispensing
Police Force
Public Service Careers
Publishing
Radio Broadcasting
Receptionist
Retail Management
Saleswork
Scriptwriting
Ship Stewards &
Stewardesses
Shop Assistant
Switchboard Operating
Telephonist
Television Broadcasting
Careers



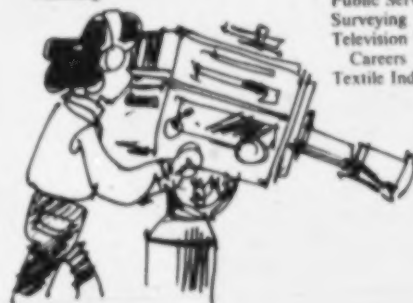
ARTISTIC

DEGREE

Advertising
Architecture
Art & Craft
Ceramic Engineering
Engineering
Fashion
Fashion Designing
Film
Fine Arts
Geography
Industrial Design
Interior Design &
Decorating
Jewellery
Journalism
Kindergarten Teaching
Librarianship
Naval Architecture
Occupational Therapy
Public Service Careers
Publishing
Surveying
Teaching
Television Broadcasting
Careers
Textile Industry
Textile Technology
Town & Country
Planning

DIPLOMA/ASSOCIATE DIPLOMA

Advertising
Art & Craft
Cartography
Drama
Fashion
Gemmology
Jewellery
Journalism
Kindergarten Teaching
Librarianship
Public Service Careers
Publishing
Saleswork
Teaching
Textile Industry
Town & Country
Planning



CERTIFICATE

Advertising
Art & Craft
Cartography
Ceramics (Studio
Pottery
Commercial Art
Drafting
Engineering
Fashion
Film
Horticulture
Interior Design &
Decorating
Landscape Gardening
Librarianship
Naval Architecture
Packaging
Photography
Public Service Careers
Surveying
Television Broadcasting
Careers
Textile Industry

TRADE

Baking
Cabinetmaking
Cooking
Coppersmithing
Electroplating
French Polishing
Gardening
Glass Industry
Hairdressing
Millinery
Painting & Decorating
Panel Beating
Pastrycooking
Printing & Associated
Trades
Scientific Instrument
Making
Signwriting
Stonemasonry
Tailoring
Upholstery
Wall & Floor Tiling
Wood Turning

OTHER

Art & Craft
Beauty Care
Cosmetician
Diversional Therapy
Dressmaking
Electroplating
Fashion
Fashion Co-Ordination
Film
Floristry
Glass Industry
Jewellery
Journalism
Make-up Artist
Modelling
Packaging
Public Service Careers
Publishing
Saleswork
Shop Assistant
Television Broadcasting
Careers
Ticketwriting
Tracing
Window Display

LITERARY

DEGREE

Administration
Advertising
Anthropology
Australian Foreign
Service
Drama
Fine Arts
Kindergarten Teaching
Journalism
Languages
Law
Librarianship
Local Government
Ministry / Priesthood
Personnel Administration
& Industrial Relations
Private Secretary
Public Relations
Public Service Careers
Publishing
Teaching
Television Broadcasting
Careers

DIPLOMA/ASSOCIATE DIPLOMA

Administration
Advertising
Drama
Kindergarten Teaching
Journalism
Librarianship
Local Government
Personnel Administration
& Industrial Relations
Private Secretary
Public Service Careers
Publishing
Saleswork
Teaching
Medical Records
Administration

CERTIFICATE

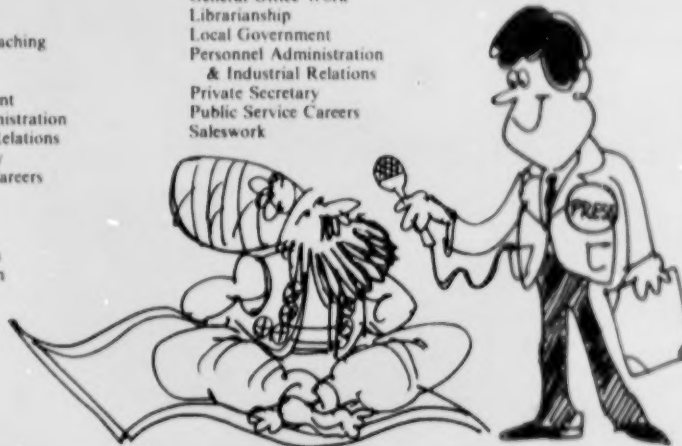
Advertising
Commercial Art
General Office Work
Librarianship
Local Government
Personnel Administration
& Industrial Relations
Private Secretary
Public Service Careers
Saleswork

TRADE

Printing and Associated
Trades

OTHER

Announcing
Court Reporting
General Office Work
Journalism
Ministry / Priesthood
Printing & Associated
Trades
Public Service Careers
Publishing
Radio Broadcasting
Saleswork
Scriptwriting
Secretarial Work
Shop Assistant
Stenographer
Television Broadcasting
Careers



MUSICAL

DEGREE

Advertising
Defence Forces
Drama
Film
Kindergarten Teaching
Librarianship
Music
Publishing
Teaching

DIPLOMA/ASSOCIATE DIPLOMA

Advertising
Drama
Kindergarten Teaching
Librarianship
Music
Publishing
Saleswork

CERTIFICATE

Advertising
Film
Librarianship
Music
Panel Operating
Radio Broadcasting
Saleswork

TRADE



OTHER

Advertising
Announcing
Defence Forces
Drama
Film
Music
Panel Operating
Publishing
Radio Broadcasting

Television Broadcasting
Careers

Teaching
Television Broadcasting
Careers

Salesman
Shop Assistant
Television Broadcasting
Careers

SOCIAL SERVICE

DEGREE

Anthropology
Audiology
Banking
Dentistry
Economics Business
Commerce
Health Administration
Home Economics
Kindergarten Teaching
Languages
Law
Librarianship
Medical Technology
Medicine
Midwifery-Nursing
Ministry Priesthood
Nursing
Occupational Therapy
Optometry
Pathology
Personnel Administration
& Industrial Relations
Physiotherapy
Psychiatric Nursing
Psychiatry
Psychology
Public Service Careers
Publishing
Science
Social Welfare Work
Sociology
Speech Pathology (Therapy)
Teaching
Town & Country
Planning
Travel & Tourism

103

DIPLOMA/ASSOCIATE DIPLOMA

Banking
Child Care
Economics Business
Commerce
Home Economics
Hotel Management
Kindergarten Teaching
Librarianship
Medical Records
Administration
Medical Technology
Medicine
Nursing
Orthoptist
Personnel Administration
& Industrial Relations
Psychiatric Nursing
Public Service Careers
Publishing
Recreation Officer
Saleswork
Social Welfare Work
Sociology
Travel & Tourism

CERTIFICATE

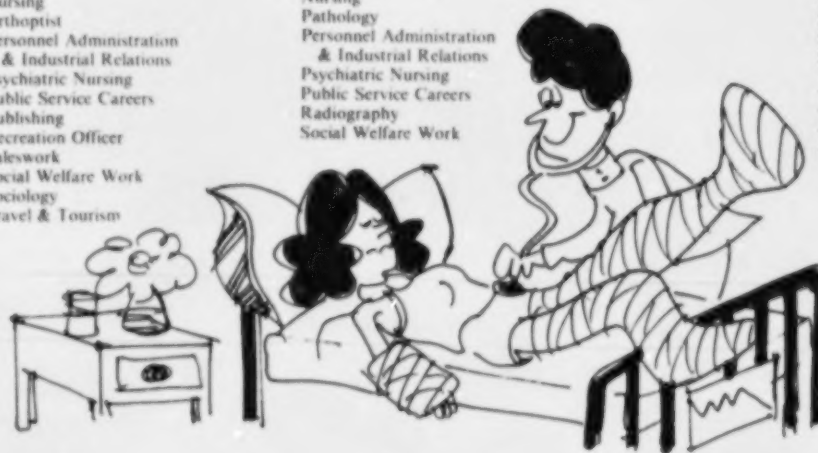
Audiometry
Banking
Catering Officer
Child Care
Economics Business
Commerce
Health Administration
Home Economics
Hotel Management
Insurance
Librarianship
Medical Technology
Midwifery-Nursing
Nursing
Pathology
Personnel Administration
& Industrial Relations
Psychiatric Nursing
Public Service Careers
Radiography
Social Welfare Work

TRADE

Cooking
Waiting

OTHER

Ambulance Work
Banking
Beauty Care
Dental Chairside
Assisting
Dental Therapy
Diversional Therapy
Insurance
Ministry Priesthood
Modelling
Nursing Aide Enrolled
Nurse
Police Force
Public Service Careers
Saleswork
Secretarial Work
Shop Assistant
Teaching
Telephonist
Train Hostess
Travel & Tourism
Waiting



104

CLERICAL

DEGREE

Accountancy
Actuarial Work
Administration
Advertising
Australian
Telecommunications
& Postal Commissions
Australian Foreign
Service
Banking
Company Secretary
Data Processing
Defence Forces
Economics, Commerce &
Business
Health Administration
Law
Librarianship
Local Government
Personnel Administration
& Industrial Relations
Private Secretary
Public Service Careers
Public Transport
Commission
Publishing
Teaching
Travel & Tourism
Woolbuying &
Woolbroking

DIPLOMA/ASSOCIATE DIPLOMA

Accountancy
Administration
Advertising
Australian
Telecommunications
& Postal Commissions
Banking
Company Secretary
Customs Work
Data Processing
Economics, Commerce
& Business
Health Administration
Hotel Management
Librarianship
Local Government
Medical Records
Administration
Personnel Administration
& Industrial Relations
Private Secretary
Public Service Careers
Public Transport
Commission
Publishing
Saleswork
Teaching
Travel & Tourism
Valuation

CERTIFICATE

Accountancy
Administration
Advertising
Australian
Telecommunications
& Postal Commissions
Banking
Company Secretary
Customs Work
Drafting
Economics, Commerce
& Business
General Office Work
Health Administration
Hotel Management
Insurance
Librarianship
Local Government
Packaging
Personnel Administration
& Industrial Relations
Private Secretary
Public Service Careers
Public Transport
Commission
Purchasing & Supply
Management
Real Estate & Business
Agency
Retail Management
Stock & Station Agency
Textile Industry
Valuation

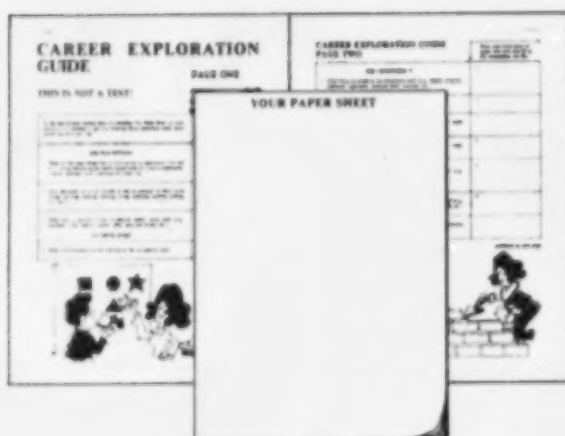
OTHER

Accountancy
Actuarial Work
Australian
Telecommunications
& Postal Commissions
Automotive Replacement
Parts Sales
Banking
Clerical Work
Company Secretary
Corporate Trustees
Court Reporting
Data Processing
Defence Forces
Dental Chairside
Assisting
General Office Work
Law
Machine Operator
Meat Inspector
Packaging
Private Secretary
Public Service Careers
Public Transport
Commission
Publishing
Receptionist
Retail Management
Saleswork
Shop Assistant
Switchboard Operating
Teaching
Telephonist
Travel & Tourism
Woolbuying &
Woolbroking



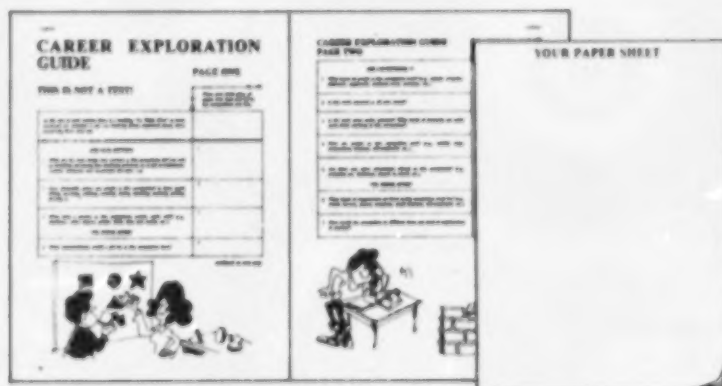
HOW TO USE YOUR CAREER EXPLORATION GUIDE

**THIS QUESTIONNAIRE WILL HELP YOU
THINK CAREFULLY ABOUT OCCUPATIONS YOU
KNOW SOMETHING ABOUT. IT WILL HELP YOU
DECIDE YOUR CAREER PATH**



All you need is a pen and separate sheets of paper for each career you intend to investigate, just place them over the sheets as indicated by the arrows.

**THIS IS *NOT*
A TEST!**



CAREER EXPLORATION GUIDE

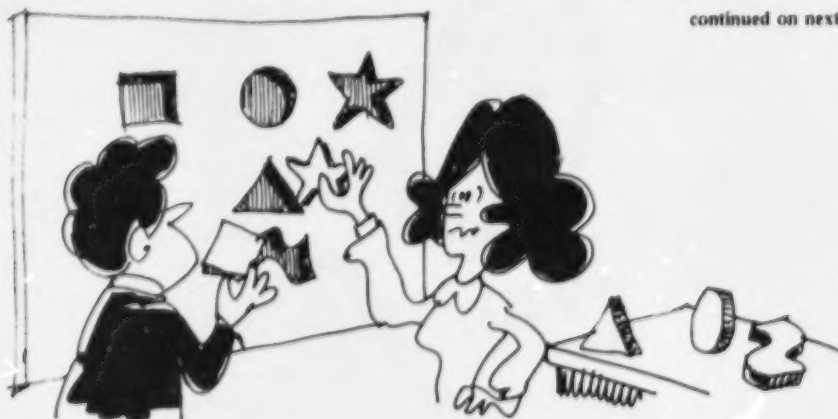
PAGE ONE

THIS IS *NOT* A TEST!

Place your fresh piece of paper over here and fill in the occupations you like.

At the end of each Section there is a heading "To Think Over" as these questions are intended to get you thinking about important issues, leave answering them until last.	
JOB DESCRIPTION 1. What are the <i>main</i> things that workers in this occupation do? (As well as including interesting and satisfying activities try to put in unpleasant, routine, necessary and occasional activities, too.)	1.
2. How physically active are people in this occupation? Is there much lifting, carrying, walking, running, sitting, standing, pushing, pulling, driving or ...?	2.
3. What does a person in this occupation <i>mainly</i> work with? (e.g., machines, other objects, people, ideas, data and results, etc.). "TO THINK OVER"	3.
4. What responsibilities would a person in this occupation have?	4.

continued on next page



CAREER EXPLORATION GUIDE

PAGE TWO

Place your fresh piece of paper over here and fill in the occupations you like.

JOB CONDITIONS **	1.
1. What hours do people in this occupation work? (e.g., regular, irregular, shiftwork, nightwork, weekend work, overtime, etc.).	
2. Is this work seasonal or all year round?	2.
3. Is the work done under pressure? What kinds of demands are made upon those working in this occupation?	3.
4. How are people in this occupation paid? (e.g., weekly wage, commission, bonuses, self-employed, etc.).	4.
5. Are there any other advantages related to this occupation? (e.g., company car, discounts, chance to travel, etc.).	5.
"TO THINK OVER"	
6. What <i>kinds</i> of organisation do those in this occupation work for? (e.g., Public Service, private company, small business, self-employed, etc.).	6.
7. How would the occupation be different from one kind of organisation to another?	7.

continued on next page



CAREER EXPLORATION GUIDE

PAGE THREE

Place your fresh piece of paper over here and fill in the occupations you like.

** WORK ENVIRONMENT ** 1. Where do people in this occupation spend most of their time? Indoors/Outdoors City/Country	1.
2. How much travel does this occupation involve? (e.g., none at all, daily, weekly, yearly, occasionally, etc.).	2.
3. How do those in this occupation work with people? (e.g., hardly at all, teaching, selling, helping, controlling, managing, etc.).	3.
4. Does this work involve close contact with people? With whom? (customers, clients, fellow workers, the public, etc?).	4.
5. Describe the kind of place where people in this occupation work? (e.g., clean, smelly, quiet, hot, dusty, crowded, air conditioned, ect.). "TO THINK OVER"	5.
6. Does this occupation have any hazards?	6.

continued on next page



CAREER EXPLORATION GUIDE **PAGE FOUR**

Place your fresh piece of paper over here and fill in the occupations you like.

JOB PROSPECTS 1. What positions can a person in this occupation be promoted to?	1.
2. How are such promotions obtained?	2.
3. How much is this occupation's starting pay now? What do people who have been in this occupation for 10 years earn?	3.
4. Is the demand for this occupation growing, stable or declining?	4.
"TO THINK OVER" 5. Is promotion likely to be rapid?	5.
6. How secure is this occupation? Is this occupation likely to change much in the future.	6.

continued on next page



CAREER EXPLORATION GUIDE

PAGE FIVE

Place your fresh piece of paper over here and fill in the occupations you like.

** ENTRY AND TRAINING ** 1. What school study and further training (if any) is required for entry into this occupation?	1.
2. How easy or difficult is it to enter this occupation and/or its appropriate training?	2.
3. What is the <i>minimum</i> standard of education needed for entry into this occupation? What is the <i>desirable</i> standard of education needed for entry into this occupation?	3.
4. How are people in this occupation trained? (e.g., full-time study, part-time study, block release study, on the job, etc.). Are there alternative methods of training available?	4.
5. Are there any special physical requirements for this occupation? (e.g., colour vision, good eyesight and/or hearing, height, weight, etc.).	5.
6. Are there equal opportunities for both sexes in this occupation?	6.
7. Are there minimum and/or maximum age limits for entry into this occupation? If so, what are they? "TO THINK OVER"	7.
8. What <i>kinds</i> of institutions offer training for this occupation? Where is this training available?	8.
9. What forms of assistance for training are available? (e.g., apprenticeship, cadetship, scholarship, etc.). What commitments does a person have to make to get this assistance? (e.g., a bond — money or set length of employment, having to spend some time in the country/city/overseas, etc.).	9.

continued on next page

you are near the end now . . .



CAREER EXPLORATION GUIDE PAGE SIX



Place your fresh piece of paper over here and fill in the occupations you like.

** LIFE STYLE **

1. How would the demands of this occupation influence other aspects of your life?

- Family? Friends?
- Where you live?
- When you sleep?
- How much spare-time you have?
- Your leisure-time activities?
- Your health and safety?
- Any other considerations?

"TO THINK OVER"

2. Would this occupation give you an acceptable standard of living?

3. What do other people think of those in this occupation?

1.

2.

3.

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THE END

MAKING CHOICES

After you have thought about what type of person you are and what kind of occupations you might study for or enter, at some time a decision or set of decisions have to be made. Here are two examples of people faced with some important choices. Try to put yourself in their situation and work out what are the best decisions. It is helpful to do this with some friends, classmates or your parents. You will probably think up more ideas that should be considered with some other people.

JOAN

Joan has always wanted a home and family of her own, but she would also like to have a career in which she could use and develop the abilities she has. Joan really likes to get involved in what she is doing. Her teachers say she is very good at expressing herself and writing essays and assignments. She is in her final year of high school and is doing well in English, Ancient History and Economics at the highest levels.

She is keen to do more study after high school, but because of family finances Joan's parents will probably want her to go to work.

How will the things Joan likes and thinks are important to her influence the decisions about careers that she is faced with?

1. Wanting a home and family?
2. Developing her abilities?
3. Being involved in what she does?
4. Her school abilities and results?
5. Family finances?

What are the advantages and disadvantages of the following occupations for Joan?

	Advantages	Disadvantages
Librarian		
Journalism		
Law		
Public Relations		

Can you think of other possible careers for Joan? What are their advantages and disadvantages?

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

DAVID

David is a practical person who likes to be outdoors and living in the country. He enjoys working on his friend's father's property and would like to go on the land himself eventually. First, he wants to learn a trade that would be useful for a property owner, and he thinks welding would be a good choice. He would probably need his School Certificate to get an apprenticeship in Welding as apprenticeships are hard to get in the country.

When David was younger, his parents moved around a lot and David went to several different schools.

Because of this he will be 18 by the time he sits for the School Certificate. David doesn't do very well at school and doesn't like studying very much. Most of his friends are leaving a year before doing the School Certificate. David has been offered a job as a farm labourer if he leaves school fairly soon.

One of his teachers suggested he could try saleswork with an agricultural company.

What do you think would be the good and bad points of David's alternatives?

Taking the job as a farm labourer

Doing the School Certificate and trying to get an apprenticeship in Welding

Getting a sales job with an agricultural company

What other alternatives could David realistically consider?

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SUMMARY AND RECOMMENDATIONS

This report provides evidence of some significant differences in the career interests of students from ethnic backgrounds compared to those of an Australian background. In particular, these differences effect the level of interests rather than the pattern of interests. Indeed, the pattern of interests across ethnic and non-ethnic groups for both sexes was fairly consistent.

The greatest differences in the level of interests appear for males and females on the categories of Outdoor and Clerical interests. However, the evidence tends to favour subtle differences in vocational interests, since the broad and diverse grouping of some 70 ethnic backgrounds has tended to mask the specific ethnic differences. Thus, detailed and large-scale studies of specific ethnic/national groups are required as a logical follow-up to this study. To alleviate and minimise possible bias, a set of new norms for the Kuder Preference Record have been provided and developed with a specific ethnic component (i.e. 50% of the sample).

Self-estimates of vocational interests tended to show less "bias" or differences across sexes than inventoried assessments and showed consistent patterns across cultures. Self-estimates involved a standardised assessment of the individual's vocational preferences and may currently provide the optimum approach for career education in multi-cultural contexts. Four different practical approaches for the measurement of career interests were outlined. These focussed on self-estimates of interests and operate within the Kuder classification of interests. These techniques included a structured approach to the clarification of interests, a vocational interest rating scale, a career exploration guide and computer-assisted guidance package.

The results of this study supported the framework for vocational development outlined by Gottfredson. This approach to career choice emphasised the influence of the individual's sex and socioeconomic status as determinants of occupational interests, and modified further by level of ability. Also, the analysis of interests by Prediger in terms of the work-task dimensions of data-ideas and people-things was consistent with the vocational interests of this sample.

Recommendations

- (a) Further research is required to establish whether there are specific ethnic group differences in career interests as suggested by some of the findings in this study.
- (b) Additional investigations of occupational choices across ethnic groups are needed to confirm the influence of ethnicity with respect to socioeconomic status, sex, and ability.
- (c) The development of norms for standardised tests which specify the cultural background of the sample seems to be a necessary requirements for test use in Australia.
- (d) In career education and guidance, the widespread use of careers guidance materials and interest inventories normed on American samples may need to be reconsidered in the light of this study.
- (e) The development of career interest measures which are based on self-assessments may provide a partial solution to overcome the cultural differences in vocational interests.

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Comments and criticisms are solicited, but this should not be
cited as a reference without the permission of the author.

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